AEROSOL AGE

THE MAGAZINE OF PRESSURE PACKAGING

Nitrous Oxide and "Freon C318"

CSMA Aerosol Product Survey

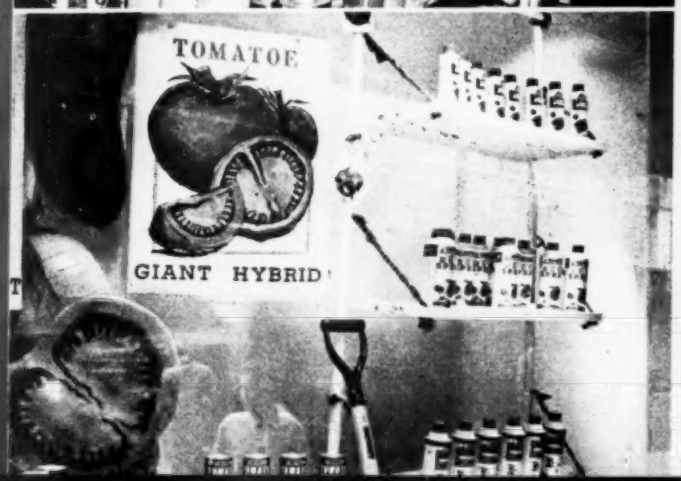
CSMA Meeting Reports
- Use of the Rheometer
- Blending Different Propellants
- Aerosol Particle Determination

Gas Chromatography for Aerosols

IAA Meets in Zurich

IFT Meeting in Philadelphia

JUNE, 1959



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An all-stainless-steel line for loading pressurized food products in aerosol containers under sanitary conditions is now in operation at Stalfort's modern Pressure-Pak plant. Completely segregated in a glass-enclosed area, this line is dismantled and sterilized before and after each production day. Any food product suitable for aerosol dispensing, even powder, can be economically handled in this area.

Three other high-speed lines are available for loading metal or glass aerosol containers that do not require completely sanitary conditions.

Stalfort, the country's largest filler, can also load liquids, waxes, or creams in conventional glass or metal containers.

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Revolutionary New MIST-MIZER Mechanical Break-Up Tip

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NOW AVAILABLE IN 3 STYLES OF VALVES

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Tilt-action valve recommended primarily for unpigmented, non-aqueous products. For cold or fast pressure filling.

KN-38
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AR-74
For cold and extremely fast pressure filling. Ideal for pigmented products. No internal metering. Clog-proof, removable stem design.

AEROSOL RESEARCH COMPANY

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WILLIAM J. FRITZ was born and raised in Trenton, N. J. Following a hitch in the Navy during World War II, Bill attended Indiana University where he received his bachelor's degree in chemistry. After graduation, Bill gained experience in both industrial sales work and quality-control testing before joining Du Pont. He came to Du Pont in 1957, and was assigned as a research chemist with the "Freon" Products Division. At present, Bill directs the use of analytical devices such as the vapor phase chromatograph and other instruments in the "Freon" Products Sales Service Laboratory at Chestnut Run near Wilmington.

"We can employ Du Pont's arsenal of analytical instruments to help our customers with their aerosol problems"

says William J. Fritz of Du Pont

"Today's most modern instruments and electronic devices are available at our labs to serve the aerosol industry," says Bill Fritz of Du Pont's "Freon" Products Laboratory. A variety of determinations and analyses can be made here on these instruments. We use these analytical tools to help our customers in their work on aerosols."

The technical facilities at Du Pont are just one of the advantages you get at no extra cost when you buy Freon* propellents from Du Pont. Loaders or marketers of aerosol products can take advantage of many sales-building services which only Du Pont offers.

In marketing, Du Pont surveys help you expand sales of your products. Through national advertising and promotion, Du Pont works continuously to build markets for aerosols, bring you a steady flow of new customers. In technical service, Du Pont's know-how and experience can help you with aerosol development or solution of production problems. In the manufacture of "Freon", Du Pont makes aerosol propellents recognized throughout the industry for their quality, performance and properties. And only Du Pont gives you virtually local delivery service from three plants in the U. S., one in Canada and a network of warehouses.

If you have a problem in any area of aerosol development, production or marketing, call or write the Du Pont office nearest you. And be sure you buy "Freon" for all your propellent needs.

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"Freon" Products Division 326
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**Freon and combinations of Freon- or F- with numerals are Du Pont's registered trademarks for its fluorinated hydrocarbon propellents.*

JUNE, 1959 VOL. 4, No. 6

AEROSOL AGE

The magazine of pressure packaging

THIS MONTH'S COVER

A three-week long aerosol product promotion was held throughout Macy's New York department store, one of the largest in the world, during the last two weeks in May and the first week of June. Sponsored by both Macy's and DuPont, the promotion included both window displays (bottom photo) and special displays throughout the store (top photo). Additional photographs and further details appear on page 44.

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The answers to aerosol valve needs are being developed and perfected daily at Precision . . .

THIS MEANS ADDITIONAL PRODUCT SALES FOR YOU!

This new Precision spray valve, in addition to its slanted finger rest has an imprinted arrow in a second color to show the direction of flow.

A Precision stream spout for dispensing any product, regardless of viscousity, that will pour. Currently most toothpaste and syrup manufacturers, are using this practical and attractive unit.

Upside down spout, designed for toppings is far simpler to use than ordinary spouts and in addition is far easier to keep clean. Just lift and hold under the faucet.

This graceful spout has proven to be a profitable way of dispensing pharmaceuticals and cosmetics. Combined with Precisions metering valve, it dispenses a pre-determined amount with a touch.

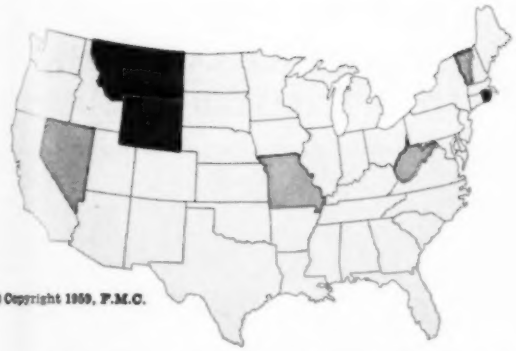
• At Precision there is a continuing program of research and development, for each day brings new products to be packaged in aerosol containers. The success of aerosols, is based on functional design and attractive appearance for these two go hand in hand to improve dispensing and increase sales.

Perhaps your product, whether it be dispensed as a foam, a spray, a drop or a stream, should be adapted to an aerosol package. Aerosols have proven, an increase in sales because of appearance, economy and simplicity of use. Precision engineers will be most happy to talk with you.

PRECISION VALVE CORPORATION, 700 NEPPERHAN AVENUE, YONKERS, N. Y.

RESISTANT INSECTS EAT INTO SALES!

...don't blame your salesmen, the RESISTANT INSECT may be the culprit !



FAIRFIELD CHEMICALS' First National Insect Resistance Survey
RESISTANT INSECT DISTRIBUTION

Insect Resistance | No Insect Resistance | States Unreported

(†) *Survey available upon request on your company letterhead.*
(*) *Reg. U. S. Pat. Off. FMC*

In a recent nationwide survey† leading Entomologists reported flies and roaches have "learned-to-live" with many widely used insecticides. Once powerful formulations no longer prove fully effective. Worse, each new insect generation becomes more and more immune.

If your insecticide sales have slumped, blame the resistant insect! It's time to take 'him' seriously. The survey showed that formulations with PYRENONE* offered long range effectiveness and high killing power, are non-toxic to humans and warm blood animals. Pyrenone, a combination of pyrethrins and piperonyl butoxide, proved to be the safest, surest, most economical insecticide base. It's time to put performance... *and profits, naturally*... back into your insecticides. Reformulate with Pyrenone.

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- Periodically check insect resistance to your products.
- Tailor your formulations to meet specific needs.
- Prescribe proper application methods.
- Reformulate to include Pyrenone.

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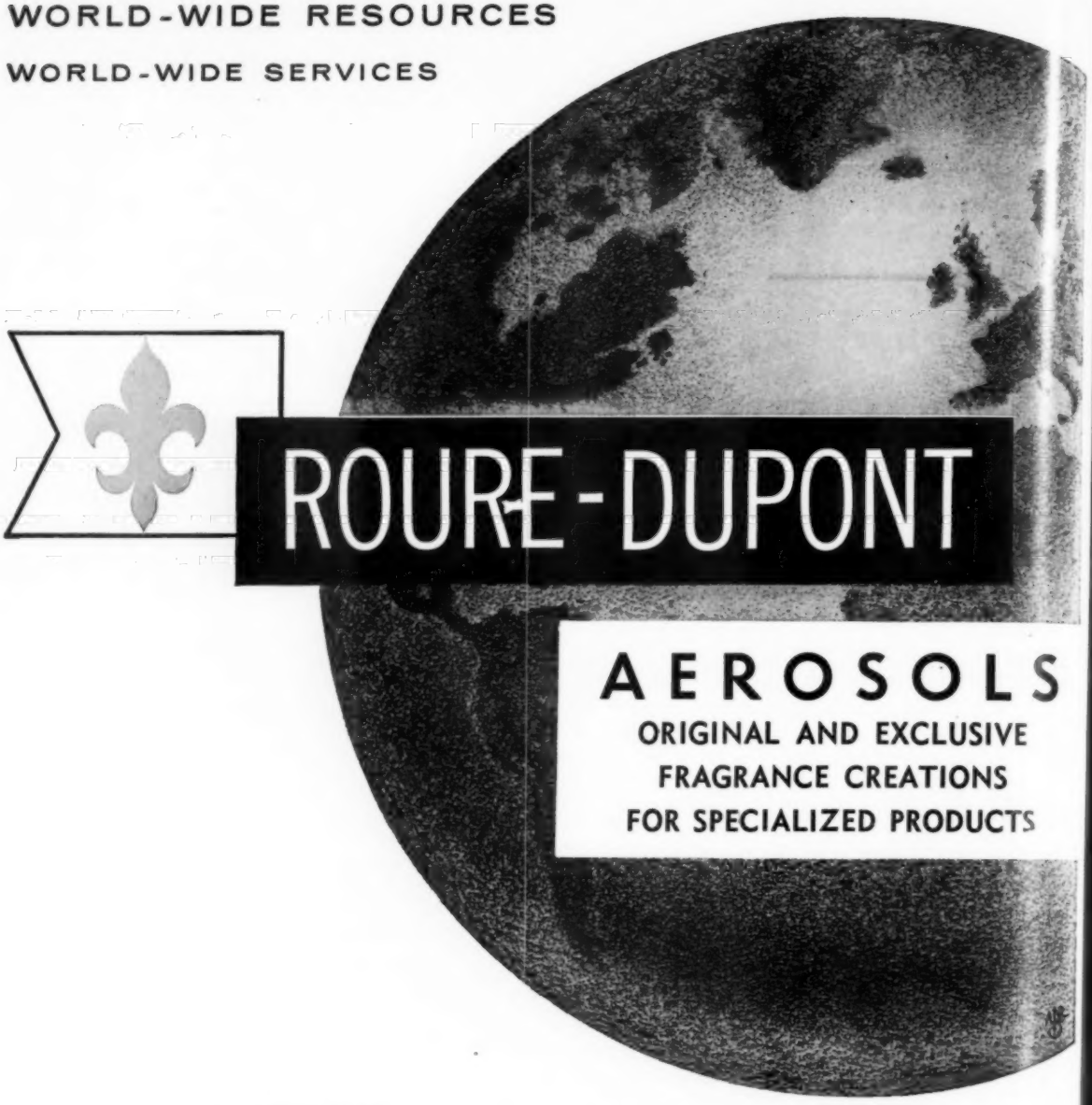

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137 YEARS' experience as primary producers of Essential Oils and Aromatic Chemicals gives us unexcelled knowledge of the reactions and vagaries of these products.

We have been leaders in the creation of Internationally renowned original Fragrances and their incorporation in all Cosmetic Products including Aerosols.

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Refillable—long cap to prevent accidental activation—can be printed with your own designs—available in highly polished brass cap, plastic or low-cost coated paper tube.

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Poison Ivy Remedies
Spray Bandages
Mouth Washes
Deodorants
Talcum Sprays
Hair Sprays
Athlete's Foot Remedies
and of course—*Perfumes!*

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INDUSTRY CALENDAR

International Symposium on Gas Chromatography, of The Instrument Society of America. The Kellogg Center for Continuing Education, East Lansing, Mich. . . June 10-12

European Federation of Aerosol Associations, first meeting (at International Congress of the Chemical Industry), Maison de la Chimie, 28 Rue St. Dominique, Paris, France June 26

Western Packaging & Materials Handling Exposition, Civic Auditorium, San Francisco, Aug. 11, 12 & 13.

American Management Association Packaging Seminar on Packaging Management (Costs and Controls), Colgate University, Hamilton, N. Y. Aug. 17-21.

Canadian Agricultural Chemicals Association, Chateau Frontenac, Quebec, Sept. 20-24.

Industrial & Building Sanitation - Maintenance Show and Conference, N. Y. Trade Show Building and New Yorker Hotel, New York, Sept. 22-24.

American Management Association Packaging Seminar on Packaging Line Layout, Hotel Astor, New York, Sept. 28-30.

CSMA Aerosol Industry Technical Clinic, New York, (site to be announced), Oct. 17.

National Agricultural Chemicals Association, Sheraton Lick Hotel, French Lick, Ind. . . . . Oct. 21-23

CSMA Aerosol Industry Technical Clinic, Chicago (site to be announced), Oct. 24.

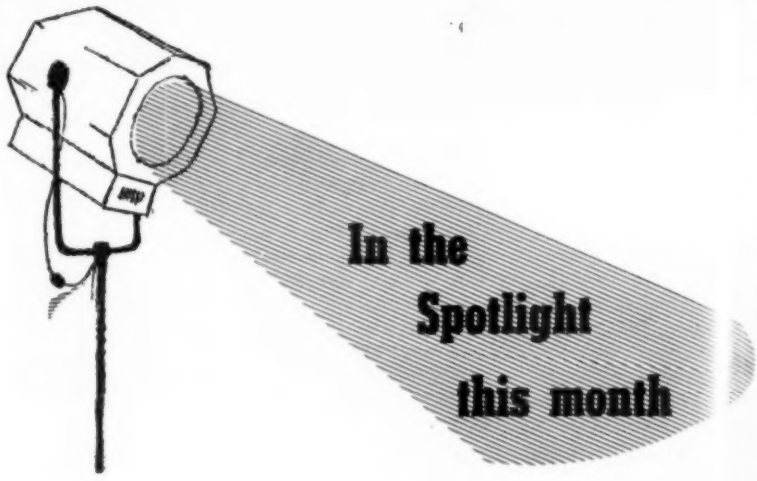
Canadian Manufacturers of Chemical Specialties, second annual meeting, Royal York Hotel, Toronto, Nov. 2-4.

American Management Association Packaging Seminar on Fundamentals of Packaging Specifications, Hotel Astor, New York, Nov. 9-11.

Packaging Machinery Manufacturers Institute, annual show, New York Coliseum, New York, Nov. 17-20

Toilet Goods Association, winter meeting of Scientific Section, Waldorf Astoria Hotel, New York Dec. 1

Chemical Specialties Manufacturers Association, 46th annual meeting, Mayflower Hotel, Washington, D. C. . . . . Dec. 7-9



• **Nitrous Oxide and "Freon C318" for Food Products** . . . The long awaited technical paper on exactly how DuPont's new fluorinated hydrocarbon food propellant, mixed with N_2O, may be formulated with various food products, appears on page 20.

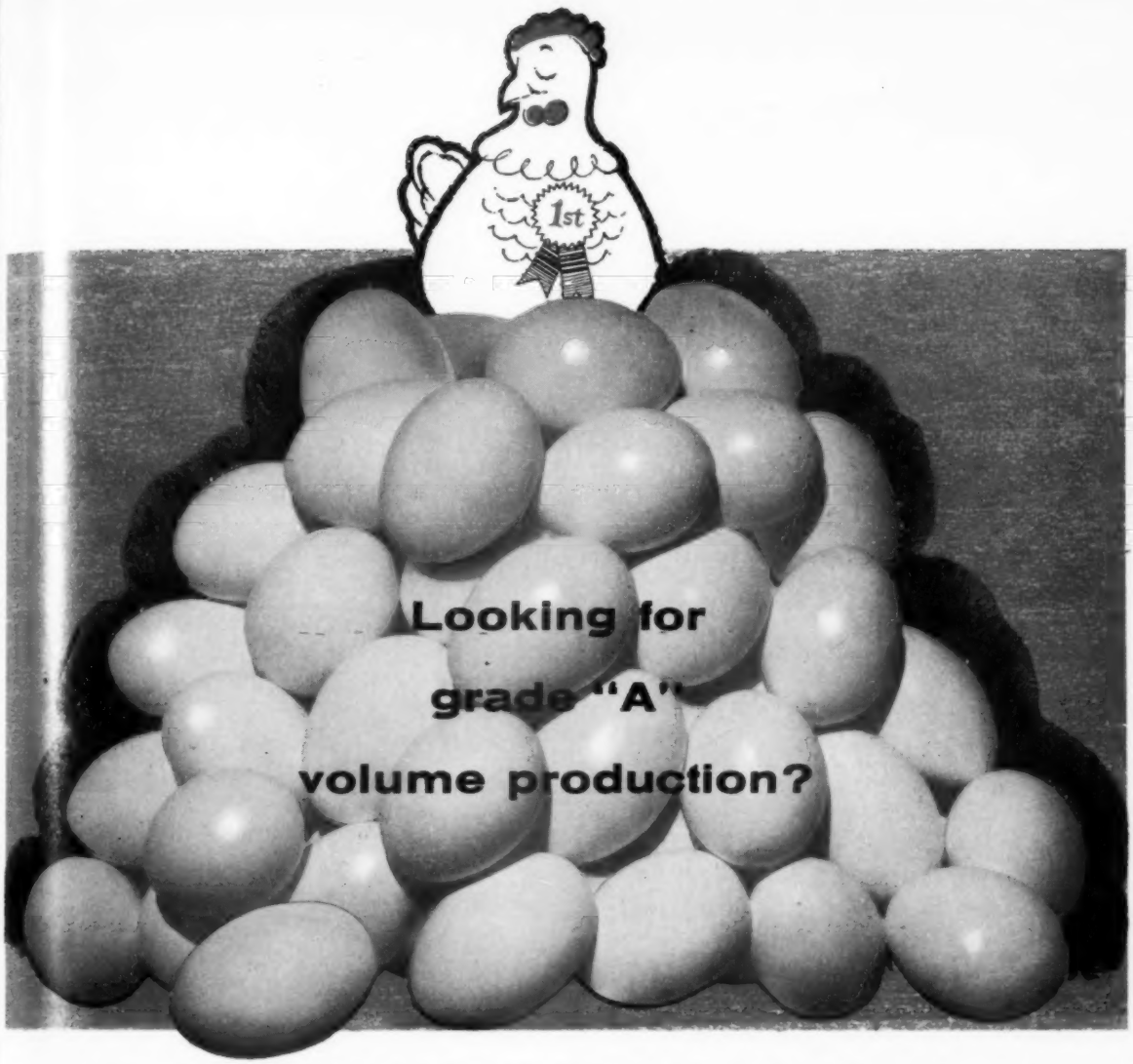
• **CSMA Meeting Reports** . . . Summaries of the other three aerosol technical papers delivered at the May CSMA convention, plus photographs of some of the attendees, begin on page 23.

• **1958 Aerosol Product Survey** . . . The yearly tabulation of all aerosol products filled reveals new gains for a number of leading product types. 1957-58 figures appear on pages 26-27.

• **Process and Product Patents** . . . Asher Blum, New York patent attorney, discusses some of the basic legal implications of this type of patent, and takes a long look at the LaMaur hair spray patent. His article begins on page 32.

• **Determination of the Volatile Constitutents of Aerosols by Gas Chromatography** . . . Two Colgate research chemists report on how gas chromatography can be used to analyze a whole series of aerosol product types. Their article, together with charts, appears on page 35.

• **International Aerosol Association Meets in Zurich** . . . The first of the European aerosol associations, now a regional industry group holds its second annual meeting. An on-the-spot report by Aerosol Age's European representative begins on page 40.



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A wise man once said, "nature's work of perfection is a fresh, grade 'A' egg." In their own right, Newman-Green aerosol valves are works of perfection. This is made possible by men dedicated to the axiom of all true craftsmen: Quality cannot be inspected into a piece—it has to be built into the piece. Whether your order is voluminous or small, Newman-Green means top quality aerosol valve engineering. You will also receive the best grade "A" service. Call the man from Newman-Green today. See for yourself.

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REAL-KILL . . . America's leading Family of Insecticides makes it possible!
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Kills roaches, ants, waterbugs, silverfish, flies, mosquitoes and hundreds of other crawling and flying insects.
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* This 14-page, history-making "spectacular" in the June issue of Ladies' Home Journal is Cook Chemical Company's way of telling customers about their amazing **Real Kill** insecticides. This exciting presentation . . . backed by hundreds of thousands of dollars in dealer promotion . . . puts a complete "Do-it-yourself" Bug Control Book into 6,000,000 homes!

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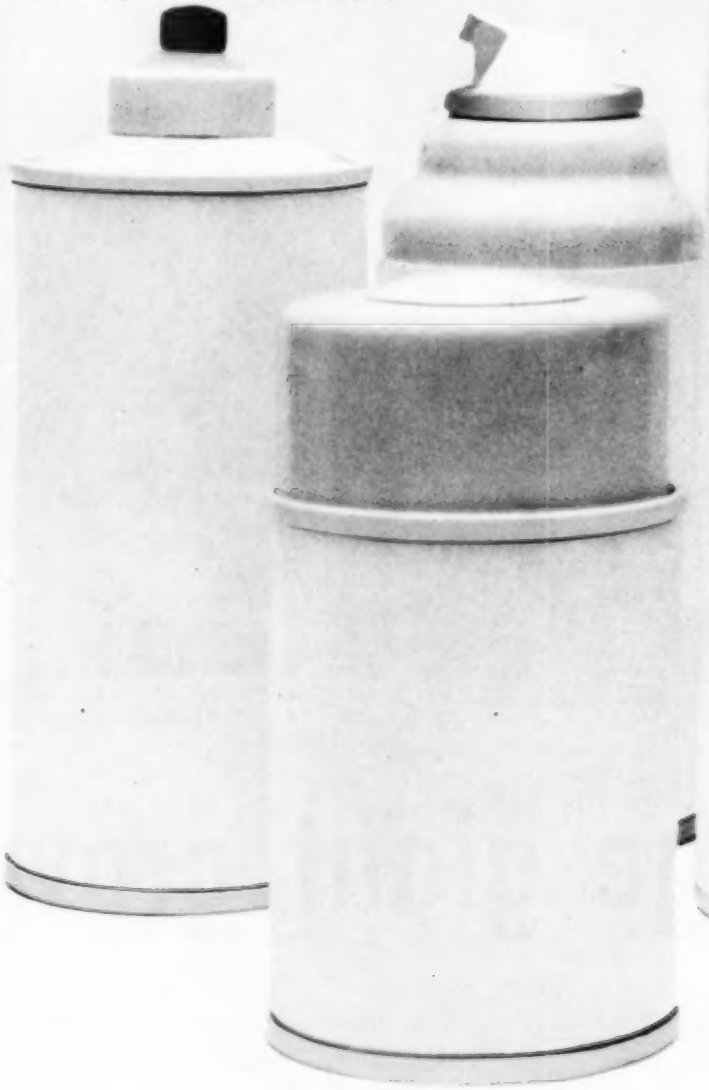
PVP/VA copolymers are especially suitable for aerosols designed as:

spray-on bandages, gloves / tinted decorative sprays
antitarnish coatings for metals / shoe polishes, white or colored / protective leaf-shine sprays



TYPICAL FORMULATIONS AVAILABLE

PVP/VA copolymers are compatible with many modifiers and plasticizers so that hygroscopicity, flexibility, and abrasion resistance may be varied over a wide range. Organic solvents are not necessary for stripping these copolymer films as they are water removable.

PVP/VA copolymers are supplied as 50% solutions in SDA-40 anhydrous ethanol (E series) for cosmetic applications and as 50% solutions in anhydrous isopropanol (I series) for noncosmetic uses.

PVP/VA E-735 } (70% vinylpyrrolidone/30% vinyl acetate copolymer)
I-735 }

PVP/VA E-535 } (50% vinylpyrrolidone/50% vinyl acetate copolymer)
I-535 }

PVP/VA E-335 } (30% vinylpyrrolidone/70% vinyl acetate copolymer)
I-335 }

Write for samples and more detailed information

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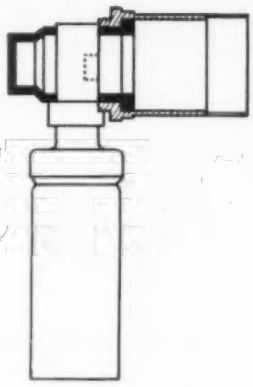

ATTACHMENTS*

- **practical**
- **profitable**
- **marketable**

Here is another example of EMSON inventiveness ! Another new major development born on EMSON'S engineering boards. And, like EMSON'S famous Metered Valve . . . the most widely used Metered Valve in the world . . . it is destined to be regarded as the leader of its type.

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Complete, safe, compact package for personal use. Leakproof, dustproof, foolproof. Stainless Steel or Aluminum. 13½ or 16 cc capacities.

Attachment easily slips over the button, which is part of the valve. Always in correct position. Moulded of sturdy Super Dylan.

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- For cold or pressure filling.
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ACCESSORIES:

- Refill cartridges.
- Stainless steel, aluminum or metal containers — 10, 13½, 16 cc, 2 oz.
- Mechanical break-up actuator.
- Safety lock.
- Special actuators and caps.
- Nasal and oral attachments.

Send for a sample today.

(*) Covered by U. S. and foreign patents and patents pending.

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(Vinylpyrrolidone/vinyl acetate copolymers)

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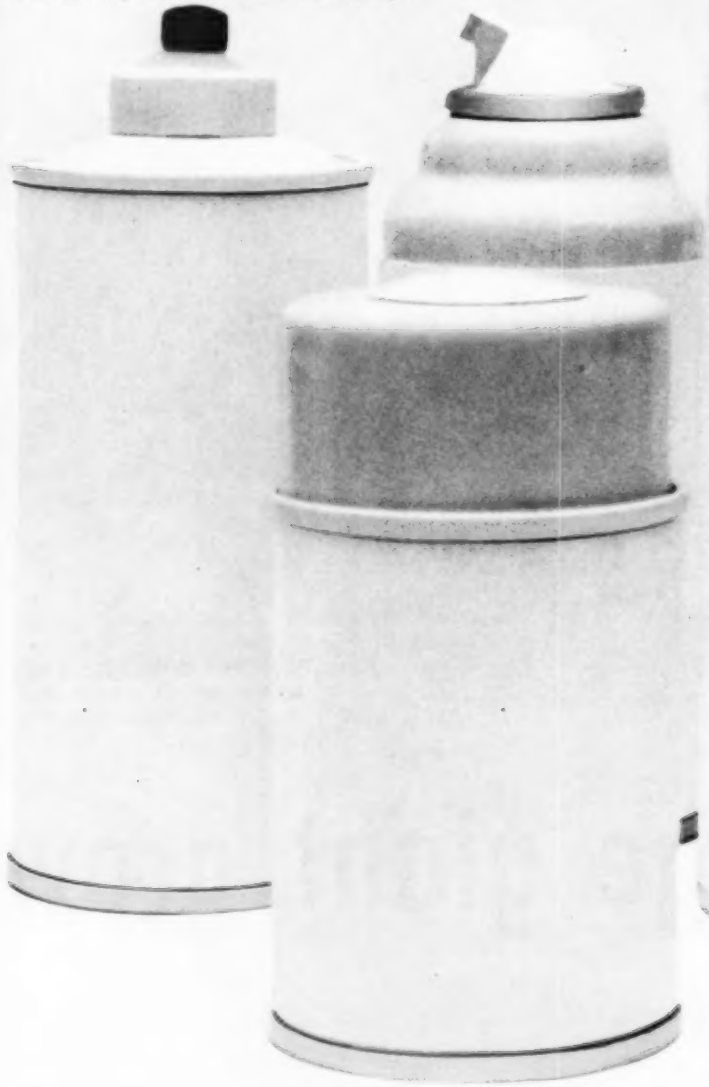

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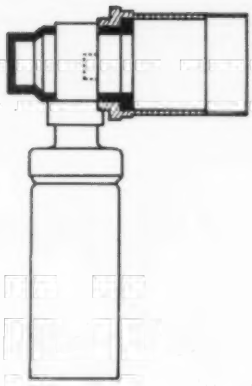
EMSON'S NEW METERED ORAL ATTACHMENTS*



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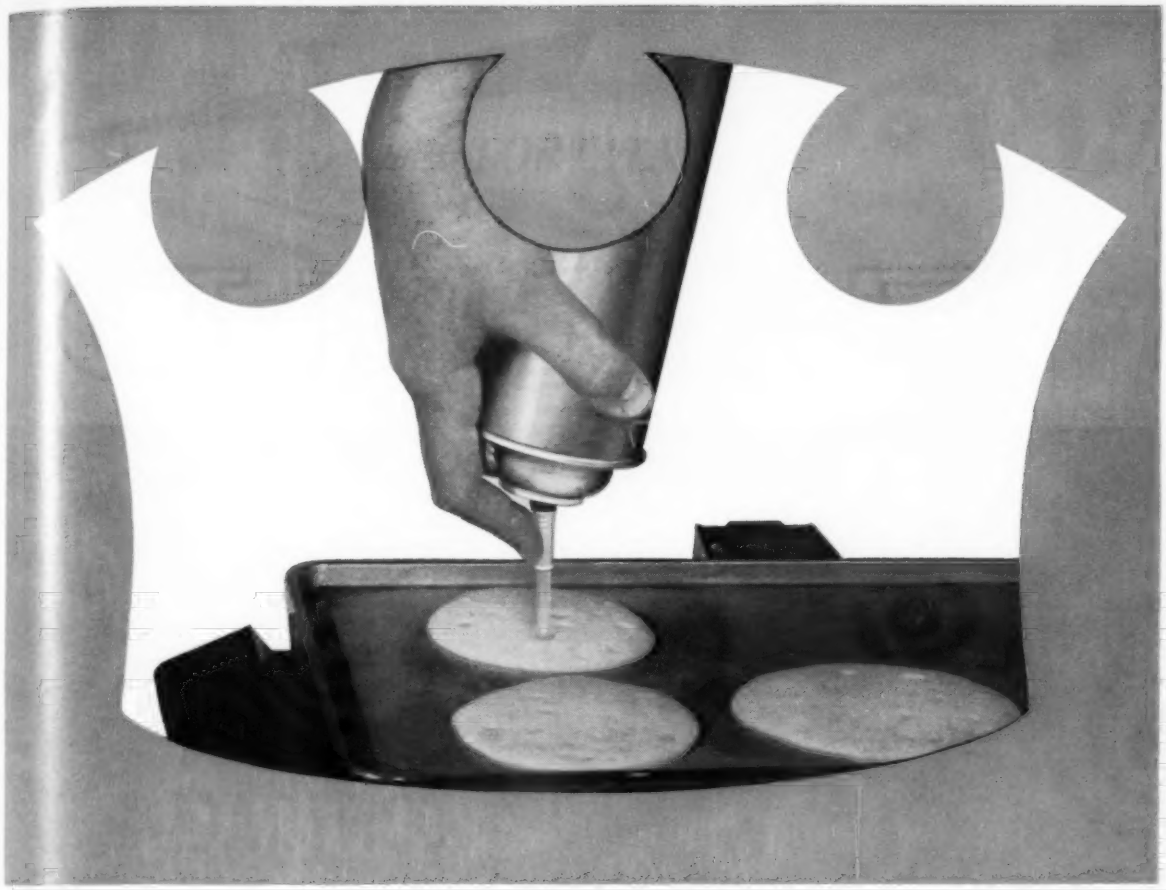

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EDITORIALS

CSMA And the Aerosol Industry . . .

At the recent CSMA convention in Chicago, the Aerosol Division scheduled a special "take our hair down" session at which members were invited to bring out into the open any criticisms they might have of the way the Division's affairs have been conducted. The idea seems an excellent one, and a feature which could well be repeated at regular intervals. In the opinion of this observer, however, the idea failed somehow to come off in this initial trial, perhaps because, in the open meeting, the critics were largely silent.

Why this reticence? Well, for one thing, it is a lot easier to pick flaws in an existing program than it is to set up a new program. For another, there is seldom organization among any group of critics, and no one feels responsibility to present a case. Perhaps, if there is a real desire to smoke out the complaints, what the program committee should do is name a "Devil's Advocate" (someone to marshal and present the negative case). And, finally, the critics may well have the feeling that "There's no use arguing with City Hall." There is seldom much future in any organization for perennial members of the opposition.

Whatever the explanation for this silence, those who have the responsibility for planning for the future of CSMA's Aerosol Division should not be beguiled into the belief that all are satisfied with the way matters are presently arranged. It was significant to us that, in a vote taken at the meeting, sentiment was strongly in favor of cutting down to but one session a year rather than the two now held,—rather impressive evidence that something may be lacking in the way CSMA conventions are now conducted.

To our mind, cutting down to one session a year would definitely be a step in the wrong direction. Developments are proceeding at such a rapid pace in the aerosol field that, particularly for new entrants into the field, a meeting at least every six months is rather imperative just to keep in touch with what is going on. And, obviously, committee work would suffer on an abbreviated schedule.

Perhaps what is needed is not fewer meetings,—but rather meetings of a different type. We have a feeling there would be more interest in marketing sessions, as opposed to purely production and technical discussions. We believe that discussion sessions are much more profitable than simply sitting and listening to a formal paper which can always be read later in the official proceedings.

We have heard the sentiment expressed, too, that with aerosols expanding into the cosmetic, food and pharmaceutical fields, there is need for an aerosol meeting which would attract wider attendance from individuals in *these* industries,—and possibly from others who will be the the future converts to the aerosol idea. Those who urge such a meeting seem to question whether any substantial number of such people would ever attend a "chemical industry" meeting.

Others express the feeling that there is too much waste time and motion in a long meeting which has only brief sessions on aerosols. They say they are perfectly willing to attend two sessions a year, but would prefer that at least one be a streamlined gathering which would take no more than two days at the outside, and where the Aerosol Division could meet independently from other Divisions of CSMA. It is their feeling that CSMA has grown so large that a breakdown might be advisable into autonomous divisions which could plan independent programs of more direct interest to their memberships, and where committee meetings could be grouped to allow

(*Continued on Page* 65)

Nitrous Oxide and "Freon C318"

as propellants for aerosol

AEROSOL packaging of nonfood products has grown very rapidly since its beginnings around 1947. Over the same period, growth of aerosol food products has been steady, but much slower.

The aerosol food market is potentially very large, and the next few years should show a faster growth rate than we have seen in the past decade. A number of problems have depressed the growth rate of aerosol food products, but some of these are now being resolved.

The choice of a proper propellant is critically important for a successful aerosol product. In the past, only two propellants—nitrous oxide and carbon dioxide—have been available for edible sprays or foams, and only one propellant—nitrogen—for edible nonaerated liquids.

"Freon-C318"* propellant, a new fluorocarbon, has recently become available for experimental trial in aerosol food products. Both by itself, and in combination with nitrous oxide, "Freon-C318" offers important advantages in aerosol foods.

Whipped cream, the major aerosol food product, has certain deficiencies which have retarded its market growth. "Freon-C318" may be used to make a whipped cream with markedly improved stiffness and stability, with better color retention and much less weeping or drainage, as compared to similar cream whipped with nitrous oxide. Mixtures of nitrous oxide containing 15-30 weight percent of "Freon-C318" propellant also show these quality improvements with whipped cream. Furthermore, the mixed propellant is more economical than straight "Freon-C318," and provides the higher pressures needed to dispense refrigerated or viscous food products. One important advantage—uniform consistency during use of the dispenser—has so far been attained only by using straight "Freon-C318."

The conventional "Freon" propellants used for nonfood aerosol products are not suitable for food aerosols because they usually impart an objectionable taste. All of the "Freon" propellants decompose in contact with flame or very hot surfaces, forming irritating and toxic breakdown products.

The Food Additives Amendment of 1958 requires the manufacturer of a new food additive to test it for safety on animals. After review of the test data, the Food and Drug Administration will issue regulations covering commercial use of the additive in foods.

Nitrous oxide, carbon dioxide and nitrogen have already been approved for use in aerosol food products. The required tests on "Freon-C318" have been completed. They show no effects on animals after 90 six-hour exposures to concentrations of 10% "Freon-C318" by volume in air. This is a much higher level of exposure than feeding tests could provide because of the low solubility of "Freon-C318" in water and in oil.

The animal toxicity and chemical stability data on "Freon-C318" have been reviewed with officials of the Food and Drug Administration. Their formal action may be expected within the next few months.

In addition to federal regulations, state and local boards of health may impose their own regulations to be sure that the finished aerosol food product will be clean and wholesome. This will probably mean completely separate loading lines used only for food. The food will usually have to be sterilized or pasteurized by cooking or by flash heat exchangers, and then be chilled and loaded aseptically into sterile cans. The propellant is probably already sterile, but, if necessary, it can be sterilized by filtration before loading. It will not be practical to sterilize the finished pressure package.

Nitrous oxide and carbon dioxide can be used only as compressed gas propellants. Their vapor pressures at ordinary temperatures are far too high to permit them to liquefy in an aerosol container. They do, however, dissolve to some extent in both the aqueous and the oil phases of cream, mayonnaise or other emulsified food product.

The amount of compressed gas dissolved in the food product depends on the pressure and the temperature at equilibrium. This means that the amount of propellant gas available for whipping the product when it is dispensed depends critically on the original product fill and headspace, the charging temperature and pressure, and the increasing headspace or decreasing pressure as the product is used. Foamed food products propelled with compressed gases typically show decreasing product stiffness and overrun in successive portions from the same container. With some products, this lack of uniformity is quite objectionable.

* Freon-C318 is du Pont's registered trademark for octafluorocyclobutane.

food products*

By F. W. Blodgett
E. I. du Pont de Nemours & Co., Inc.
Wilmington, Del.

R. C. Webster
Air Reduction Co., Inc.
Madison, Wisc.

"Freon-C318" is a liquefied compressed gas with a vapor pressure of 25 psig at 70°F. When it is used as the propellant for emulsified food products, droplets of liquefied propellant are emulsified in the aqueous phase, in addition to the propellant dissolved in the oil phase. "Freon-C318" is essentially insoluble in water. The pressure in the container, and the amount of propellant dissolved in the oil phase remain constant as long as some droplets of liquid propellant remain. Since the volume of the propellant increases by a factor of 175 as the liquid propellant evaporates, most of the "Freon-C318" remains emulsified in the product in spite of increasing headspace. For these reasons, the consistency and overrun of the whipped product remains very nearly constant during the use of a dispenser pressurized with "Freon-C318" liquefied propellant.

In 1958, a development project conducted jointly by Air Reduction and du Pont indicated that even minor concentrations of "Freon-C318" in nitrous oxide propellant give improved quality in whipped cream and other aerosol food products as compared to similar products using straight nitrous oxide propellants. Further work has shown that mixtures of "Freon-C318" and nitrous oxide form a homogeneous liquid solution in high-pressure cylinders. This makes it practical to use the mixed propellant commercially. The solution, of specified composition, is taken from the cylinder liquid phase, vaporized, passed through a reducing valve, and charged to the cans on a standard gasser-shaker. Under these conditions, the mixture is used as a compressed gas propellant at about 100 psig.

The properties of nitrous oxide and of "Freon-C318" are shown in Table I above. In spite of their dissimilarities, the two compounds are miscible in all proportions at temperatures down to about —110°F. under their own vapor pressure.

The advantages of using the mixture of nitrous oxide and "Freon-C318" rather than straight nitrous oxide are shown by the following data on whipped cream.

Two cream formulations, differing mainly in butterfat content, but adjusted to similar taste, were used:

Component	*Formula A*	*Formula B*
Butter fat	30.00%	20.00%
Serum solids	7.50	8.50
Cane sugar	7.50	6.00
Corn syrup solids	—	2.50
Protein stabilizer	0.25	0.30
Total solids	42.25	37.30

The 211 x 413 aerosol containers, of nominal 12-ounce capacity, were filled with 7 fluid ounces of a cream formulation. Valves were applied with a vacuum crimper. Straight nitrous oxide or a mixture of nitrous oxide and "Freon-C318" was then charged, with agitation, to an equilibrium pressure of 95-100 psig at 40°F. Triplicate samples were used.

Consistency, or stiffness, was measured with a curd tension meter, which determines the force in grams on a disk 1.5 inches in diameter which is supported on the whipped cream. Successive readings were taken as the disk slowly penetrated the whipped cream over a period of five minutes.

Drainage, or serum loss, was measured by placing a weighed portion of the whipped cream in a funnel over a 0.5-inch disk of 16-mesh wire screen. The sample was stored for

Table I

PROPERTIES OF PROPELLANTS

Property	*Units*	*Nitrous Oxide*	*"Freon-C318"*
Formula		N_2O	$CF_2CF_2CF_2CF_2$
Molecular Weight		44.016	200.04
Color		None	None
Odor		None	None
Taste		Slight Sweet	None
Boiling point, 1 Atm.	°F	—127.24	21.1
Density, 70°F			
Liquid	lbs./cu. ft.	46.5	94.5
Saturated vapor	lbs./cu. ft.	0.2809	1.505
Vapor pressure, 70°F	psig	745.3	25.4
Heat of vaporization, 70°F	BTU/lb.	77.7	46
Surface tension, 70°F	dynes/cm	—	8.3
Solubility parameter, 77°F		4.2	5.6

* Presented at the Mid-year Meeting, Chemical Specialties Manufacturers Association, in Chicago on May 19, 1959.

one hour at 70°F. and the drainage was recorded in ml/100 g.

Overrun and the general appearance of the whipped cream after storage at 70° F. was also recorded.

The stiffness and stability results are shown in Table II. The most marked difference is shown by the samples containing "Freon-C318." All of them show firmer consistency and better stability than those containing straight nitrous oxide. There is relatively little effect of different butterfat contents in these formulations. This shows that a whipped cream with about 30% increase in firmness can be made by using a propellant containing 15% by weight of "Freon-C318" in nitrous oxide, even though the butterfat content of the cream is reduced from 30% to 20%.

This firmer consistency and better stability probably results from the finer, more uniform bubble structure developed in whipped cream by propellants containing "Freon-C318." The very low solubility of "Freon-C318" in water is important in maintaining the uniformity of the bubble size. Soluble gas tends to pass from smaller bubbles to larger bubbles and out to the air because of the differences in pressure. "Freon-C318" is practically insoluble in water, with a solubility of about 0.006 ml/ml at 77°F. and 1 atm. This is about 1% of the solubility of nitrous oxide in water.

Overrun and drainage data are shown in Table III above. The effect of "Freon-C318" added to nitrous oxide is to increase the overrun and decrease the drainage. This is consistent with the increased foam stability shown in Table II.

Again it was noted that the whipped cream samples showing high overruns with nitrous oxide/"Freon-C318" propellant had relatively uniform, small bubbles, rather than the large gas cells often seen with straight nitrous oxide whipped creams at high overruns.

Visual observation of the whipped cream samples for softening of the edges, weeping, discoloration and collapse at 70°F. shows that samples containing nitrous oxide/"Freon-C318" propellant are definitely superior to those containing straight nitrous oxide. This is true at both butterfat levels. The effect is striking at 30 minutes and at an hour. Even after 24 hours, the samples containing "Freon-C318" retain about half their original shape and general appearance. After several hours, the samples containing straight nitrous oxide have collapsed and seriously discolored.

TABLE II
WHIPPED CREAM STIFFNESS AND STABILITY

Cream Butter Fat Wt. %	*Propellant "Freon-C318" Wt. % in N_2O*	*Pressure psig Average*	*Stiffness (Force in grams) Time in Minutes 0*	*1*	*2*	*3*	*4*	*5*
30	0	102	63.5	50.0	47.8	45.5	44.0	43.0
30	15	98	73.0	66.5	63.0	61.5	60.0	58.5
30	20	98	73.0	59.0	55.0	53.0	51.5	50.0
30	25	102	70.0	57.0	54.5	51.0	50.0	49.0
30	30	100	74.5	62.0	58.0	55.5	54.5	53.5
20	0	103	66.1	51.3	48.9	44.2	42.0	41.0
20	15	95	72.0	62.0	60.0	59.0	57.0	56.0
20	20	91	71.5	61.0	59.0	58.0	57.0	56.0
20	25	100	76.5	64.0	61.0	60.0	59.0	58.0
20	30	100	76.0	64.5	61.5	60.0	59.0	58.5

Table III
WHIPPED CREAM OVERRUN AND DRAINAGE

Cream Butter Fat Wt. %	*Propellant "Freon-C318" Wt. % in N_2O*	*Pressure psig Average*	*Overrun % Average*	*Drainage ml/100 g. Average*
30	0	101	225	4.07
30	15	96	285	3.75
30	20	96	285	3.70
30	25	100	285	3.90
30	30	103	285	2.80
20	0	104	239	10.20
20	15	95	257	8.6
20	20	101	257	8.3
20	25	100	272	7.8
20	30	97	257	8.5

These data show that whipped cream formulations made with nitrous oxide and "Freon-C318" propellant are much more satisfactory than those made with straight nitrous oxide. They have better consistency, better stability, better retention of creamy-white color and less weeping or drainage.

For the first time, using this new propellant mixture, aerosol whipped cream can be used for topping desserts or other food an hour or so before it is to be served. Previously, this was a last-minute chore. In these days when convenience and labor costs are so important, these improved toppings will be welcomed by the housewife and by the chef. The new whipped creams are so stable that they can be used to top both desserts which are to be refrigerated before serving and desserts which are served hot. In the latter case, the dessert should be served promptly after topping.

There are a number of food products besides whipped cream which are suitable for packaging in aerosol form. Mayonnaise and other salad dressings operate very successfully after modification of the viscosity. Part of the salad oil is replaced with hydrogenated vegetable oil and the total amount is reduced to about 40%.

Whipped butter, based on a mixture of butterfat and salad oil, is very good on cornbread or other soft, crumbly bread. Cream cheese makes a good base for a number of canape spreads. Chocolate and strawberry flavored toppings can be made using whipped cream, vegetable fat emulsions or marshmallow bases.

(*Continued on Page 73*)

Georg Dietrich (Gen. Chem.), Mrs. and Mr. Gene Rose (Gene Rose Co.) and Fred Taylor (Lehn & Fink). Ray Shinn (Crown Can), Mrs. Sullivan (CSMA) and Seth Schnaible (Crown Can). Herb Kainik (Dodge & Olcott), Tom Wallace (General Chem.) and Jules Bauer (D & O)

Jerry Froot (MGK), Don Peck (Fuller Brush), Joseph Moore (MGK) and Robinson Gilbert (Fuller Brush). John Odeneal (Fairfield Chemical) and C. H. Jefferson and W. S. McLeod (Canadian Dept. of Agriculture). Abe Winer (Puritan), Raoul Pantaleoni (Alpine Aromatics) and David Krochock (Jewel Tea)

CSMA Meeting Report

Husted Describes Propellant Blending Techniques To CSMA

RAPID diversification of aerosol products is inducing many fillers to now reassess the feasibility of setting up to blend their own propellants, E. E. ("Rusty") Husted, sales manager - "Ucon" Propellants, Union Carbide Chemicals, told the CSMA's Aerosol Division at the association's 45th annual mid-year meeting last month at the Drake Hotel in Chicago.

Fillers usually have ordered blends to specification in the past, he explained, since the number of blends required was rather limited. But now, the great number of aerosol products on the market requires so many different propellant blends, he said, that "a serious inventory problem has been created" and "fillers have been giving increasing consideration to the feasibility of buying the individual components and preparing specific blends as required."

Mr. Husted described the operation, and the principal advantages and disadvantages peculiar to each, of the five methods that may be used to blend propellants. He listed these as: the use of a weigh tank mounted on a scale or hydraulic weighing system, of positive displacement proportioning pumps, of a displacement meter feeding a batch tank, of radiation equipment measuring liquid density, and of continuous proportioning systems.

He characterized as "principles essential to accurate blending" the necessity to keep the propellants in the liquid phase and to make allowances for the fact that a change in temperature causes a relatively big change in the density of liquefied gas.

The weigh tank method requires little capital expenditure for equipment, Mr. Husted pointed out, and the basic equipment will be sufficient even if it later becomes necessary to blend a larger number of components than the number originally provided for. But he pointed to several disadvantages:

1. The method is slow.

2. Since a batch operation requires use of a tank of specific size, if the tank "is designed to handle 8,000 gallons, for instance, and subsequently you wish to mix a batch of 1,000 gallons, it will be difficult to get exactly the right blend . . . because, with a small amount of material in a large tank, the vapor phase will have a high concentration of the low boiling component, and the

(*Continued on Page* 69)

Charles Beach (Stalfort Pressure Pak) and H. W. Hamilton (CSMA), Robert Cottam (Aerosol Corp. of the South), Charles Gray (Union Carbide) and Frank Barrada (Fritzsche Bros.). Dick Brown (Precision Valve) and Sam Copia and Joe Gregory (Newman-Green).

CSMA Meeting Report

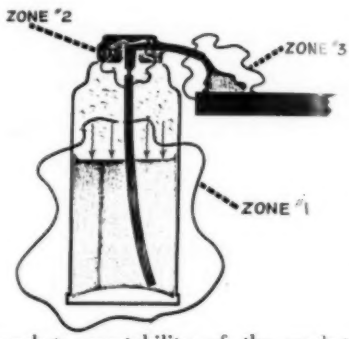
Rheometer Called Valuable Tool in Aerosol Behavior Prediction

A HIGHLY technical paper on "Rheological Characterization of Formulations for Pressure Packaging" was presented to the May 19 meeting of the Aerosol Division by J. S. Wolff, field sales manager for general chemicals, B. F. Goodrich Chemical Co., 3135 Euclid Avenue, Cleveland 15, Ohio. The paper was co-authored by R. J. Meyer, senior development engineer of Goodrich Chemical's Avon Lake Ohio plant, and L. Cohen, development engineer at the same plant.

"Rheology" is commonly defined as the "study of the flow and deformation of matter in terms of stress, strain, and time." In the paper, Mr. Wolf pointed out that "the sauce or topping from a pressurized container must exhibit the rheological behavior normally associated with that condiment when applied by spoon from a bottle. A toothpaste applied from a pressured package should be identical in appearance and behavior on the brush bristles to a paste extruded from a collapsible metal tube or from a squeeze type plastic container.

"The choice of valve, container, and compressible gas for any specific formulation may vary widely depending upon the application as well as the physical and chemical nature of the product . . . Chemical formulation of the product will vary from other packaging methods only to obtain the necessary rheological behavior since the gas used is inert with respect to the product. The study of the rheological behavior of a formulation thus becomes of unusual importance in the design of new formulations to be marketed in pressure packages. The

RHEOLOGICAL ZONES IN A INERT GAS PRESSURE PACKAGE



market acceptability of the product can often be assured by the presence of a minor ingredient such as a thickening agent . . .

"The pressurized package is a difficult and unique problem for rheological study largely due to the basically incongruous conditions existing in the three rheological zones of the system (illustrated in Figure 1).

"In Zone 1 the ratio of chamber diameter to product volume transmitted is very high, resulting in a condition of very low shear rate, perhaps from 1 to 10 inverse seconds. In this zone it is desired that the gas

Sig Was (Emson Research), Don O'Brien (Thomasson of Pa.) and Sam Coppola (DuPont). C. S. Stephens (American Can), Gus Lawrence (DuPont) and Harry Peterson (Peterson Filling). Sylvan Lefcoe (Par Industries) and Jim Gottlieb (JG Machine Co.).

act s a piston on the surface of the form ulation so as to prevent cavitation and premature release of the gas. Low viscosity is, of course, desirable here

" n Zone 2 the product is subjected to extremely high shear rate as it extruded through the small diameter valve orifice. In this zone the hear rates may be in the range of 000 to 10,000 inverse seconds. Suffiiently low viscosity at high rates of s ear is desirable so that the product may extrude without excessive pressure requirements. The instantaneous high shear rate applied to the product in this zone can result in thixotropic breakdown of the formulation so that the viscosity is too low at the point of delivery.

"Zone 3 or the point of delivery is the area of the lowest shear rate. After deposition, only the forces of gravity affect the tendency of the material to slump or flow. In this zone conditions suddenly permit flow patterns characteristic of other packaging methods. The shear rate will normally be less than 1 inverse second.

"The rheological problem, therefore, consists of the measurement of apparent viscosity over a very wide range of applied shear rates as well as determining the effects, after deposition, of an instantaneously applied high shear rate on the product. The effects of applied shear rate will constitute a real problem in almost all formulations since the occurrence of a formulation exhibiting Newtonian flow behavior will be rare.

"A common method of evaluation has been loading formulations into

(*Continued on Page* 79)

CSMA Meeting Report

Fulton Describes USDA's Work with Aerosol Particle Determination

RECENT studies undertaken by the USDA to assist the Food and Drug Administration in determining the possible toxicity of inhaled hair spray particles were described in a paper presented to the May 19 session of the CSMA's Aerosol Division by R. A. Fulton, of the Entomology Research Division, A. R. S., USDA. He reported that studies of spray patterns and spray deposits conducted by the USDA (over the past 14 years) indicate that the physical properties of aerosols can be utilized to produce satisfactory sprays with a minimum of unimpinged particles.

He advised that when a spray product is being developed, the exact requirements should first be determined, pointing out that the consistency of the product, the pressure and the distance that the dispenser is held from the surface to be sprayed are all factors that combine to determine whether or not a uniform coating is obtained.

"One of the first considerations to be determined in developing a pressurized spray product is the distance from the surface at which the container will normally be held. This distance normally varies from 6 to 24 inches depending on the product to be dispensed. After this distance is determined, the formulation, valve, and orifice size are then selected to give the desired output and particle size for the established distance. Normally a spray product can be expected to give good spraying characteristics at only one distance."

For evaluating and developing sprays the USDA uses a large paper drum two feet in diameter and three feet long. Vertical and horizontal surfaces are set up inside the drum to eliminate any interference from air currents. Holes are cut into the drum for the sampler and air intake.

In summarizing the results of the USDA studies, Mr. Fulton declared: "On the basis of this test work, it appears that 83-85% impingement is the maximum that can be expected, but that 70-75% can be considered a satisfactory performance."★

This paper will be published in full in the July issue of *Aerosol Age*.

•

Aerosol Division Names Odell

The Aerosol Division of the Chemical Specialties Manufacturers Association has appointed Norman Odell Associates, Inc., New York public relations agency, to handle publicity and promotion for the aerosol industry.

During fiscal 1959-1960 the publicity program will be directed pri-

(*Continued on Page* 69)

Doug Atlas (G. Barr & Co.), Gus Lawrence (DuPont), and George Barr (G. Barr). Bill Ackley and Bud Lindsay (van Ameringen-Haebler) and Bob Hollister (American Can). A. P. Ferrara (Precision Valve), Robert A. Foresman Jr., (Aerosol Consultant) and Stan Goldberg (Aerosol Research Co.).

20% Growth Indicated In 1958 Aerosol Product Survey

THE Aerosol Pressure Products Survey for 1958—the 8th annual such survey conducted by the Chemical Specialties Manufacturers Association, shows a continuation of the previous remarkable growth trend of the aerosol industry. While the actual number of units packaged by the industry, as certified by the accounting firm working with the committee, (Ernst & Ernst) gained in only a relatively minor way from the overall 1957 total (341,333,496 as compared with 339,490,802), it is the belief of the members of the Aerosol Products Survey Committee that the actual number of non-food aerosol units packaged by the aerosol industry this past year totaled at least 470,000,000 (valued at an estimated $470,000,000). This would represent a 20% growth as compared with the committee's projection of the 1957 rep rt.

Reported totals in the survey ave never been complete, because not 100% of the firms packaging ero-sols report. There are a numbe of prominent firms filling and m keting aerosols not participating i the survey, whose output is subst tial (of 211 fillers queried, only 9 reported for '58). Thus, to get a om-plete picture of what the entir industry is doing, the committee ust estimate the volume of the mi sing figures. This is done by cross-c eck-ing the number of valves and co tain-ers produced and sold, and also elat-ing the reported totals on va ious product categories to generall ac-cepted industry estimates of wha re-tail totals were for the period.

SURVEY OF AEROSOL AND PRESSURIZED PRODUCTS FILLED IN 1957
(NON-FOOD PRODUCTS ONLY)

CHEMICAL SPECIALTIES MANUFACTURERS ASSOCIATION
INCORPORATED

Number of units filled by 92 companies in their own plants in 1957, including government contracts.

	NUMBERS OF UNITS FILLED				
	Glass	*Metal Containers*			
Product	*Containers All Sizes*	*16-Ounce But Over 12*	*12-Ounce But Over 6*	*6-Ounce And Less*	*Total*
INSECT SPRAYS					
1. Space Insecticides	....	3,088,153	20,698,639	2,094,887	25,881,679
2. Residual Insecticides (such as roach and ant sprays, etc., including insect repellents)	....	1,154,589	3,713,756	2,972,269	7,840,614
3. Residual Insecticides—Plants (household and gardens)	....	657,642	1,105,130	183,027	1,945,799
4. Mothproofers (including all fabric pests)	....	1,835,247	3,995,300	109,227	5,939,774
COATINGS					
5. Pigmented and Metallic Paints	....	15,089,859	12,101,791	3,334,304	30,525,954
6. Clear Plastic Sprays	....	2,615,334	1,547,575	1,839,001	6,001,910
HOUSEHOLD PRODUCTS					
7. Room Deodorants	*	1,055,020	10,361,674	30,572,194	41,988,888
8. Fire Extinguishers	....	2,219,226	172,606	....	2,391,832
9. Snow (all types)	....	2,047,839	2,215,886	486,171	4,749,896
10. Glass Cleaners	*	10,961,242	266,383	*	11,227,625
11. Shoe or Leather Dressings	....	517,780	917,668	2,837,652	4,273,100
12. Other Household Products (cleaners of all types such as metal, oven, rug and upholstery; waxes, water repellents, etc.)	*	735,144	3,134,415	1,635,744	5,505,303
PERSONAL PRODUCTS					
13. Shaving Lather	....	*	9,399,209	41,469,078	50,868,287
14. Hair Sprays	1,406,729	12,060,459	28,850,599	52,114,170	94,431,957
15. Medicinals and Pharmaceuticals (such as fungicides, burn treatments, topical antiseptics, anesthetics, antibiotics, etc.)	967,673	....	347,610	4,483,786	5,799,069
16. Colognes and Perfumes	17,724,553	....	*	156,575	17,881,128
17. Sun Tan Preparations	....	....	....	618,445	618,445
18. Other Personal Products (such as shampoos, personal deodorants, hand lotions, powders, depilatories, etc.)	1,180,487	*	1,625,970	3,177,205	5,983,662
MISCELLANEOUS					
19. Miscellaneous Products (such as pet, mildew, automotive and industrial sprays, lubricants and any others)	....	5,235,558	8,143,429	2,256,893	15,635,880
TOTALS	21,279,442	59,273,092	108,597,640	150,340,628	339,490,802

* Too revealing to be released.

1958

SURVEY OF AEROSOL AND PRESSURIZED PRODUCTS FILLED IN 1958

(NON-FOOD PRODUCTS ONLY)

CHEMICAL SPECIALTIES MANUFACTURERS ASSOCIATION
INCORPORATED

Number of units by the sizes indicated for each of the products listed, filled by 95 companies in their own plants in 1958, including government contracts.

PRODUCT	NUMBER OF UNITS FILLED				
	Glass Containers All Sizes	Metal Containers 16-Ounce But Over 12	Metal Containers 12-Ounce But Over 6	Metal Containers 6-Ounce And Less	Total
INSECT SPRAYS					
1 Space Insecticides	†	3,306,078	17,435,430	1,576,053	22,317,561
2 Residual Insecticides (such as roach and ant sprays, etc., including insect repellents-all types)	-o-	4,026,318	4,947,028	1,227,449	10,200,795
3 Residual Insecticides-Plants (household and gardens)	-o-	3,112,673	1,392,563	381,005	4,886,241
4 Mothproofers (including all fabric pests)	-o-	1,795,352	2,958,053	141,848	4,895,253
COATINGS					
5. Pigmented and Metallic Paints	†	17,342,231	6,910,895	2,961,342	27,214,468
6. Clear Plastic Sprays	†	2,087,652	680,086	141,145	2,908,883
HOUSEHOLD PRODUCTS					
7. Room Deodorants	†	2,330,006	10,649,968	36,800,211	49,780,185
8. Fire Extinguishers	-o-	2,732,995	861,721	†	3,594,716
9. Snow (decorative and all types)	-o-	2,722,542	3,471,689	584,921	6,779,152
10. Glass Cleaners	†	3,326,907	50,656	290,200	3,667,763
11. Shoe or Leather Dressings	†	74,500	2,116,193	3,249,587	5,440,280
12. Other Household Products (cleaners of all types such as metal, oven, rug and upholstery; waxes, water repellents, etc.)	†	849,506	3,358,641	2,187,399	6,395,546
PERSONAL PRODUCTS					
13. Shaving Lather	†	127,838	18,733,625	26,452,153	45,313,616
14. Hair Sprays and Dressings	†	20,561,135	18,994,413	53,038,044	92,593,592
15. Dental Cream	†	-o-	†	12,905,832	12,905,832
16. Medicinals and Pharmaceuticals (such as fungicides, burn treatments, topical antiseptics, oral medicinals, anesthetics, antibiotics, etc.)	969,710	†	528,424	5,631,474	7,129,608
17. Colognes and Perfumes	10,292,524	-o-	-o-	3,270,689	13,563,213
18. Sun Tan Preparations	†	†	†	682,738	682,738
19. Other Personal Products (such as shampoos, personal deodorants, hand lotions, powders, depilatories, sachets, etc.)	†	48,696	1,475,894	5,127,548	6,652,138
MISCELLANEOUS					
20. Veterinarian and Pet Products (such as shampoos, deodorants and insecticides, etc.)	-o-	205,669	1,644,242	1,152,258	3,002,169
21. Miscellaneous Products (such as mildew, automotive (other than reported in categories 5 and 6), industrial lubricants and any others)	†	3,911,616	6,349,513	1,198,618	11,459,747
TOTALS	11,262,234	68,561,714	102,559,034	159,000,514	341,383,496

† Too revealing to be released.

For example, it has been estimated that approximately 60 million units of aerosol paints were sold in '58, yet only approximately 30 million are reported in the survey. For shaving cream the reported total of 45 million is 15 million less than the industry estimate of 60 million units sold. On insecticides only slightly over 42 million units were reported in the survey, as compared with industry estimates of 60 million units actually produced. One large producer does not report. On perfumes and colognes only 13½

(*Continued on Page* 70)

Fly Control Symposium Feature of Insecticide Division Meeting

THE aerosol has a definite place in insect control for dairy cattle. This conclusion was stated by all three speakers at a special "Symposium on Fly Control," the feature of the CSMA's Insecticide Division meeting on Tuesday, May 19. The three speakers, Dr. Herbert Schwartz, of Cornell University; Dr. Ellsworth H. Fisher, University of Wisconsin, and W. C. McDuffie, of the Entomology Research Division, ARS, USDA, Beltsville, Md., agreed on the commercial importance of the aerosol; although one, Dr. Fisher, pointed out that mechanical foggers were far more economical than the aerosol or other hand operated methods of fly control.

Dr. Fisher declared that it is better to use quick knockdown sprays for dairy cattle, rather than to try residuals which might leave residues in milk products. In Wisconsin, he reported, a formulation of .1% pyrethrins with 1% piperonyl butoxide had proven most effective.

Barn fogging, he advised, can do the following economically: (1) control flies on cattle, (2) control flies in barn, and (3) protect cattle from flies and mosquitoes at pasture. He reported that satisfactory control could be achieved (in Wisconsin) at a rate of 67 cents per cow for fogging, as against 70 cents for a hand gun (or aerosol). However, he declared, use of the latter would necessitate the additional spraying of a residual insecticide on the walls and ceilings of the barn, thus incurring an additional 86 cents per cow in insecticide costs.

He reported that five pound aerosols had been used with some success in Wisconsin dairy farms, but that desired coverage probably necessitates too much walking and expenditure of time. Also, the aerosol presents much the same economic differential as does the handsprayer.

Dr. Schwartz pointed out that no chemical control measure can be considered permanent in dealing with the fly problem with dairy cattle. He said authorities in New York State had decided to throw the "entire book" at flies, so far as employing *all* effective methods of chemical control.

"Calf pens are major source of trouble," he declared, and advised the use of diazinone both in calf manure and in poultry pens and under cages to prevent fly reproduction in some of their favorite haunts. The space spray or aerosol, he said, could prove valuable in all-round control providing the dairy barn were given a thorough treatment daily for seven day periods.

Mr. McDuffie advised that fly control be begun early in the spring, and he too strongly urged that space sprays be repeated daily if they were to be at all effective.

Aerosols also came in for prominent mention in a paper by Lawrence B. Hall, U. S. Public Health Service, Technology Branch, Communicable Disease Center, Savannah, Ga. Pointing out that the aerosol method is a particularly effective means of dispersing germicides in hospitals and food processing plants, he warned, "Germicides not effective against *Staphylococcus aureus* are particularly dangerous for the consumer because they give him a false sense of security."

Aerosol Division Elects Boar

In a move calculated to take in account the added strength of th Aerosol Division, the division vote last month to increase the numb on its executive board from four t seven members. The following we elected to the 1960 executive boar , which will take office after th CSMA's December meeting:

Chairman: E. J. McKernan, Seaqui t Mfg. Corp.

Vice-Chairman: George Barr, G. Barr & Co.

Members:

Clarence Clapp, Western Filli g Corp.

D. J. Templeton, Stanley Hom e Products

Joseph Tomlinson, General Chemical Division, Allied Chemical Corp.

Frederick G. Lodes, Lodes Aerosol Consultants

R. Chris Canaday, Continental Filling Corp.

•

Huyler Heads Tuvaché

William D. Huyler has been elected president of Tuvaché, New York aerosol perfume marketer, and vice-president of Scandia Sales Corp. and French Atomizer Corp. He will also serve as general manager of all three companies.

Bob Comiskey and Bill Brosie (Stalfort Pressure Pak), Phil Meshberg (Er on Research) and Pete Clapp (Western Filling). Max Smart and Roy Hoonhut (Mo oe Danford), Art Chivvis (Union Carbide) and Roy Ferry (Mojonnier).

Root Reports New Method of Corrosion Determination at SCC's Technical Meeting

A NEW method of determining the electrochemical potential between metallic components of the aerosol container and the product itself was described to the semi-annual technical meeting of the Society of Cosmetic Chemists last month by Morris Root, technical director of G. Barr & Co., Chicago custom filler. Mr. Root spoke at the society's meeting at the Hotel Commodore on May 7 in New York.

In introducing his discussion of the new method Mr. Root cautioned that it is simply an adjunct to shelf testing and other well-established product study methods. Corrosion in aerosol containers, he reminded, is of such complex nature that every tool available must be used to come to intelligent conclusions in a minimum of time. He declared that accelerated shelf testing had shown serious shortcomings, particularly in such products as one pressurized shampoo that showed no corrosion at 130° but manifested serious corrosion (mainly pitting) after only a short time on the store shelves.

The electrolytic method developed by G. Barr & Co. consists of a number of "cells" into which are placed the various metal components together with the product ingredients that are to be used for the final package. The current flowing in these units is then measured by means of a Leeds Northrup galvanometer. "The current flowing between anodes and cathodes on the surface of the corroding metal (Farraday's Law) is an accurate measurement of the corrosion that may be expected in the finished product."

The Barr studies revealed that complete removal of the air in the head space resulted in a marked reduction in corrosion, as did the coating of the interior of the container with epoxy resins.

Further pursuing the subject of aerosol shampoos, Mr. Root reported on tests conducted with three leading product types. For the alkyl-aryl sulfonate type, he said that the electrolytic measurement revealed relatively small areas of high corrosion. For the triethanolamine lauryl sulfate type, there was a similar pattern of corrosion. There is some hope for a successful product, he advised, with a Deriphat shampoo formulation, where the elimination of solder in the container results in a marked reduction of galvanic current.

Among the other results reported by Mr. Root were:

1) Shellac hair spray — solder and tin are anodic to iron. Corrosion is under both anodic and cathodic control, and there is some solder corrosion.
2) Modified shellac hair spray again showed that corrosion is under both anodic and cathodic control.
3) PVP hair spray—very little corrosion, though minor quantities of additives (perfumes, etc.) can drastically change the entire situation.
4) A wax (oil-in-water emulsion)—potential corrosion current very low.
5) Resin emulsion—perforation took place at the liquid-vapor line. Use of a drawn can reduced corrosion, as did interior coating of the container.

Mr. Root acknowledged the limitations of the newly developed corrosion testing system. The main ones he cited were:

1) inability to measure corrosion in the vapor phase.
2) inability to accurately measure product breakdown under any given set of circumstances.

At the conclusion of his paper, he reiterated that the electrolytic method is actually a guide to where to look for potential trouble rather than a substitute for well controlled shelf life studies.

The speakers at the technical meeting of the Society of Cosmetic Chemists (l. to r.) Isaiah S. Botwinick, Research Testing Labts.; Charles Merritt, Jr., Quartermaster Research and Engineering Center; J. J. Travers, Lever Brothers Co.; R. D. Charles, Atlas Powder Co.; Wilton R. Earle, National Cancer Institute; L. D. Apperson, Colgate Palmolive Co. and program chairman of the Society; D. E. Koshland, Jr., Brookhaven National Laboratory; and Morris J. Root, George Barr & Co.

A PRACTICAL method of using gas chromatography and mass spectrometry for the determination of odor was presented by Dr. Charles Merritt, Jr. of the Pioneering Research Division, Quartermaster Research and

(*Continued on Page 75*)

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Process and Product Patents*

Some of the implications of the La Maur hair spray patent

By Asher Blum
Mock and Blum
New York, N. Y.

THERE are two questions to be considered:

1. Can a valid patent be secured on a new use of an old material?

2. Can such a patent cover the use of a material which is not specifically described in the patent?

As to the first question, it is well settled that a valid patent *cannot* be granted upon a mere new use of an old material. That is, let us assume that somebody discovers that if pepper is rubbed on the foot, this will cure dandruff. This would be a discovery, but the discovered could not secure a valid product patent phrased merely as "pepper, for use in treating dandruff."

Thus, I refer to the Thuau case, decided on April 5, 1943 by the U. S. Court of Customs & Patent Appeals, reported in 57 U. S. Patents Quarterly, page 324.

Mr. Thuau had discovered that a well-known tanning agent could cure certain skin diseases, if applied to the human skin. He tried to claim the old tanning agent as a new therapeutic product.

The Court, in rejecting Thuau's application, quoted from a prior opinion which stated,

"But a new use of an old thing or an old process, quite unchanged, can under no circumstances be patentable."

However, we must bear in mind the qualifying words, "quite unchanged", because even a minor change in a new use of an old thing may support a patent.

Thus, let us look at an old decision of the Supreme Court of the United States in 1876. (Smith v. Goodyear Dental Vulcanite Co. 93 U. S. 486.) After Goodyear had invented the vulcanization of rubber, a dentist named Cummings secured a patent on a dental plate made of vulcanized rubber, and having attached teeth. All that Cummings did was to combine Goodyear's idea with attached teeth. The Supreme Court held that the use of a rubber plate was so superior to the use of a metal plate, that the patent should be sustained.

As another illustration of the patentability of a slight change in environment of an old material, I refer to the case of Donner v. Sheer Pharmacal Corp., decided in 1933 (17 U. S. Patents Quarterly, page 117). In this case, the Court sustained a broad patent for a stable depilatory cream, in which the depilating agent was the old aqueous solution of alkali sulfhydrate. The Court held that the stable cream depilatory was superior to the use of the depilatory in liquid form, and was also superior to the old depilatory paste, because the ingredients of the old depilatory paste separated. Therefore, an old ingredient, used for an old purpose, may be patentable if incorporated in a new vehicle, if the change leads to a very substantial improvement.

Another interesting case was decided in 1948. (Gelardin v. Revlon Products Corp. 164 Fed. 2d. 910). Due to the scarcity of brass during the Second World War, the cosmetic industry could not get metal for making lipstick holders. Gelardin got a patent in 1943 for a lipstick holder made of plastic. The Court said that one of the questions was:

"whether it was invention to change from metal to plastic."

The Court said:

"it would be absurd to maintain that the substitution of a new material can never require originality, so that it could never make a profitable advance."

The Court held that in the case under consideration, the substitution of plastic would have,

"occurred to any competent person, who was looking for a substitute for metal in such a holder."

The court invalidated the patent, because the change in the structure of the plastic holder over the ordinary metal holder was merely "the common knowledge of the art." Hence, each case depends upon whether the patent involved ordinary knowledge or the inventive faculty.

Considering a current matter of interest to the industry, PVP was originally patented and disclosed in U. S. Patent No. 2,265,450, issued on Dec. 9, 1941, which expired on Dec. 9, 1958. This expired patent stated that the class of compounds which included PVP, were

"soluble in water or organic solvents."

The expired 1941 patent also stated that these materials could be used as "finishing, thickening, sticking or binding agents."

A text book entitled "Vinyl and Related Polymers", by Schildknecht, published in 1952 by John Wiley & Sons Inc. discusses various uses of PVP and states that it has been used in water-soluble adhesives, as a thickening agent for cosmetic preparations, and as a replacement for gum arabic and gelatin.

On Jan. 27, 1959, U. S. Patent No. 2,871,161 was issued to La Maur Inc., on an application filed as far back as July 31, 1952.

In this La Maur patent, the PVP

(*Continued on Page 76*)

* Presented at the 24th Annual Convention of the Toilet Goods Association, the Waldorf-Astoria, New York, on May 13.

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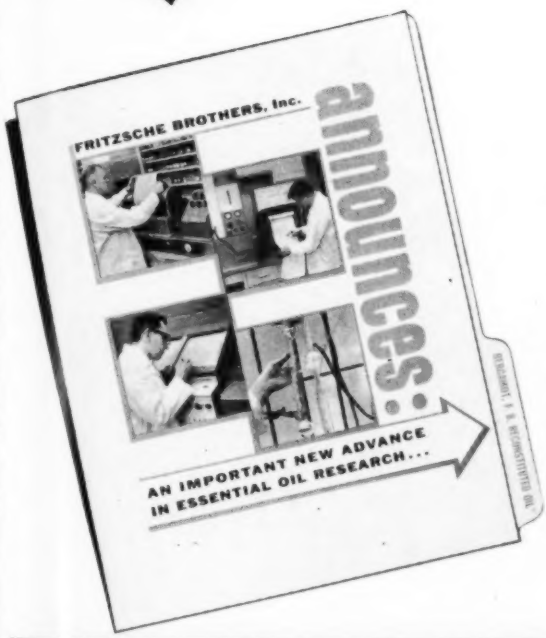

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Determination of the
Volatile Constituents of Aerosols
by Gas Chromatography

*By J. W. Jenkins and J. M. Amburgey**
Colgate-Palmolive Co.
Jersey City 2, N. J.

THE widespread use of aerosols includes products such as hair sprays, room deodorants, insect sprays and anti-perspirants. These solution type aerosols contain halogenated hydrocarbons as propellants and may also contain ethyl alcohol as a solvent. A method for the quantitative determination of these volatile constituents is a necessary and valuable tool for checking the accuracy of formulation, both in laboratory and factory.

Gas chromatography has been reported as a means for the determination of propellants (1, 2), but sampling problems inherent to the physical nature of propellants and propellant products have made this analysis difficult. Sampling of the gaseous phase alone gives % by volume in the gaseous phase and does not relate it to the sample weight. A method for the determination of volatiles in aerosol solutions in which a small, chilled sample of the aerosol is dissolved in a large volume of less volatile solvent is presented. Values obtained are weight percentages of the total aerosol sample.

Discussion

When a small weight of volatile solute is dissolved in a large volume of a less volatile solvent, the vapor pressure of the volatile solute is lowered in solution so that it may be readily handled without loss. This is an application of Henry's Law which states that the partial vapor pressure of a solute is proportional to the mole fraction of that solute in solution. If a means of separating and measuring this small amount of solute in a large volume of solvent is available, a quantitative determination is thereby accomplished. Gas chromatography is especially well suited for such a separation and determination.

It was first necessary to select a column which would separate the halogenated hydrocarbons and alcohol in a reasonable length of time, 30 minutes or less. This column must give symmetrical peaks and be stable at operating temperatures. A 2 meter column of decyl phthalate on celite fills the requirements. A 2.5 meter column of butyl phthalate on firebrick gives better definition between propellants 12 and 114 but the elution of methylene chloride and ethanol is retarded. A column of Carbowax® 600 on celite gives good separation and less "tailing" of the ethanol peak but solvent interference occurs.

The solvent chosen for this analysis was cyclohexane, B. P. 81°C. This gives a single peak which emerges after all of the volatiles, 20 minutes from the time of sample injection. Chroloform and carbon tetrachloride were rejected as solvents because of their long retention time on the column. In cases where the propellant is a mixture of 11 and 12 with the latter in high concentration, it is desirable to use ethanol or a mixture of ethanol and methylene chloride as a solvent. Such a solvent may be chilled further than cyclohexane to minimize the propellant 12 loss during sampling.

Chromatographic operating conditions are 50°C and 15 psi helium pressure. The flow rate is 46 ml/min.

Apparatus and Materials

Perkin-Elmer Vapor Fractometer Model 154B, or equivalent.

L & N Recorder, 0-5 millivolt range, or equivalent.

Hamilton Syringe, 0.1 milliliter capacity, graduated in 0.01 milliliter units.

Cyclohexane, B. P. 81°.

Perkin-Elmer Column "A" (decylphthalate on Celite) —2 meters in length.

Procedure

A—Calibration

1—The instrument is calibrated for each component to be determined, propellants 11 and 12, methylene chloride and alcohol. This is done in one step. A 10 ml volumetric flask is three-quarters filled with solvent, cyclohexane, stoppered and weighed. Approximately 100 milligrams of ethanol is added and the flask is reweighed, the difference being the weight of alcohol.

2—Methylene chloride, approximately 100 milligrams, is next introduced into the flask and the weight of the closed flask determined.

3—Propellant 11 is introduced into the tared flask containing the ethanol and the methylene chloride. This is done from an aerosol can containing the propellant by means of a valve adapter and

* Presented at the May 14, 1959, meeting of the Scientific Section of the Toilet Goods Association in New York and published in the "Proceedings" of the Section.

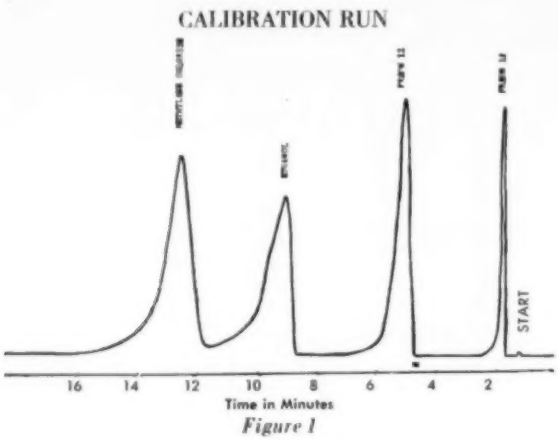


Figure 1

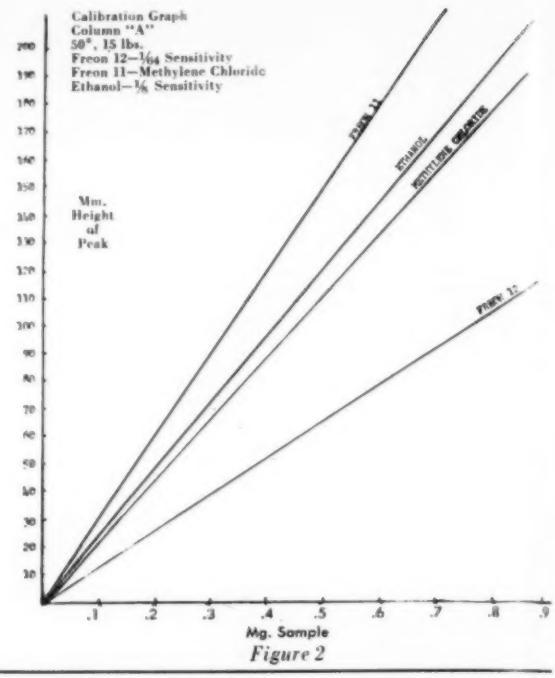


Figure 2

short length of rubber tubing leading into the neck of the volumetric flask. After the estimated 100 milligrams has been added, the exact weight is determined by weighing the stoppered flask.

4—Propellant 12 is added to the flask and the weight determined in the same manner as the propellant 11. Again 100 milligrams is the proper weight.

5—The volumetric flask is now filled to the mark with solvent and mixed by repeated inversions.

6—The instrument is equilibrated at at 50°C and 15 pounds of helium pressure. At the start of a sample run, the recorder sensitivity is set at 1/64.

7—At least 4 samples of the calibration standard ranging between 0.02 and 0.08 milliliters are injected by means of the syringe. These samples represent 0.2-0.8 milligrams of each constituent.

8—The first peak to emerge, propellant 12, is recorded at 1/64 recorder sensitivity. After the propellant 12 peak is completely recorded, the sensitivity is shifted to 1/8th. If necessary, the base line is adjusted to the original level. The remaining constituents emerge and are recorded in this order: propellant 11, ethanol and methylene chloride. Figure 1 illustrates a typical curve.

9—The height of each peak is measured from the baseline. For each constituent of the calibration standard a calibration curve is drawn. Figure 2 represents a composite calibration curve.

B—Determination of Propellants in a Product

1—A 10 milliliter volumetric flask is half filled with solvent and weighed. It is then chilled. The sample can under investigation is placed in a dry ice chest for ½ hour before opening. A spike is then driven through the bottom of the chilled can leaving a hole approximately ¼" in diameter. A 10 inch length of glass tubing of 3.5 mm bore serves as a pipet for withdrawal of samples from the can. This pipet is immersed in the can for 30 seconds before taking a sample. A sample is withdrawn by means of the pipet and introduced into the chilled, tared flask containing the solvent. The contents of the flask are swirled to insure partial mixing. A sample taken in this manner should be between 0.5 and 0.8 grams.

2—After the chilled flask has warmed to room temperature, it is wiped free of condensation and reweighed. The difference from the original tare weight (Step 1) is the weight of aerosol sample. The flask is filled to the mark with solvent and mixed.

3—A sample of 0.01 to 0.05 milliliters is injected into the instrument by means of the syringe. The curve is developed in the same manner as in the calibration procedure.

4—The peak heights are measured from the baseline and the percentage of each component calculated from the calibration graph (Figure 2).

Calculation:

$$\% \text{ of Component} = \frac{\text{Wt. of Component (From Graph)}}{\text{Wt. of Sample in Aliquot}} \times 100$$

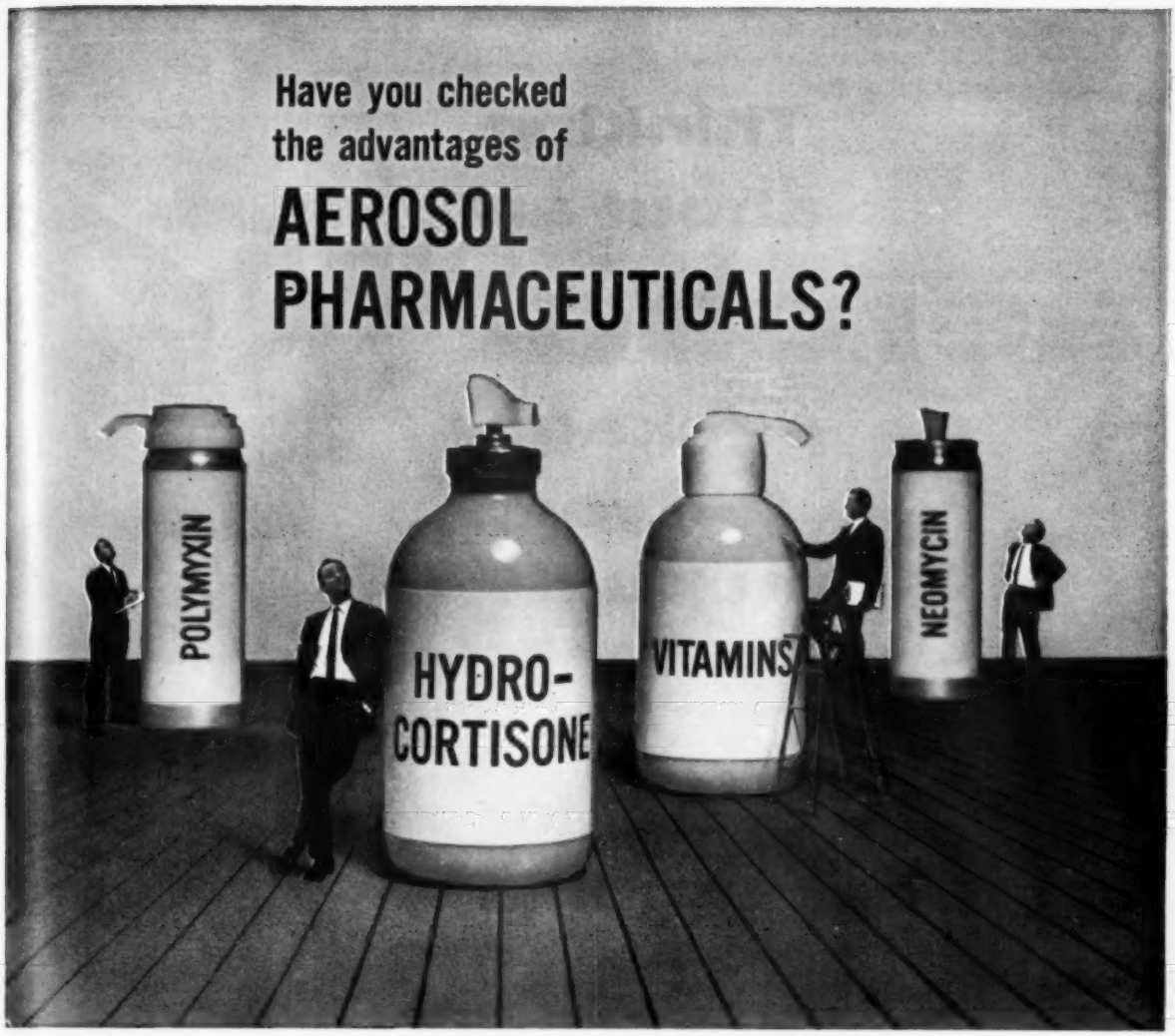
Experimental

A—Room Deodorant 1

A carefully prepared laboratory sample gave results as shown in Table 1, A. Agreement such as this is typical with laboratory prepared samples and helped to establish confidence in the method.

A series of factory and laboratory samples, prepared under conditions which we could not control, gave results as seen in Table 1, B. These were duplicate analyses, including the

(*Continued on Page 74*)



● The unique advantages of pressure packaging lend themselves to a number of pharmaceutical products and applications. For some time now Pfizer has been working in close cooperation with the pressure packaging industry to develop formulations where these advantages will be most profitable for pharmaceutical manufacturers.

For example, the stability of liquid multivitamins is greatly extended by pressure packaging because the preparations are overlayed by an inert gas, such as nitrogen, for the life of the container. Also, they are protected from the deleterious effects of light.

Another inherent advantage of pressure packaging is the complete freedom from atmospheric contamination afforded the contents of the package. Topical preparations utilizing Pfizer Hydrocortisone and the antibiotics—neomycin and polymyxin—as well as multivitamin preparations are particularly enhanced by this feature.

The Pfizer non-toxic plasticizers—Citroflex® A-2 and A-4 have proven highly effective for polyvinyl compounds used in pressure packed hair sprays and spray bandages.

Because of the firm conviction that pressure packaging will play an important role in the pharmaceutical industry, Pfizer is continuing to direct considerable effort towards the development of antibiotic, steroid and vitamin aerosol formulations. For a report concerning the role pressure packaging is playing, and will play, in the pharmaceutical industry write to Pfizer requesting reprints of the article, "Pressure-Packed Pharmaceuticals."

Among the many other advantages of pressure packed pharmaceuticals are:

- **Application is fast, convenient, uniform.**
- **A high concentration of a drug over a limited area may be obtained.**
- **Direct contact with the injured area is eliminated, often reducing pain.**
- **No waste through intermediate applicator.**
- **Dosage may be controlled accurately with metered valves.**

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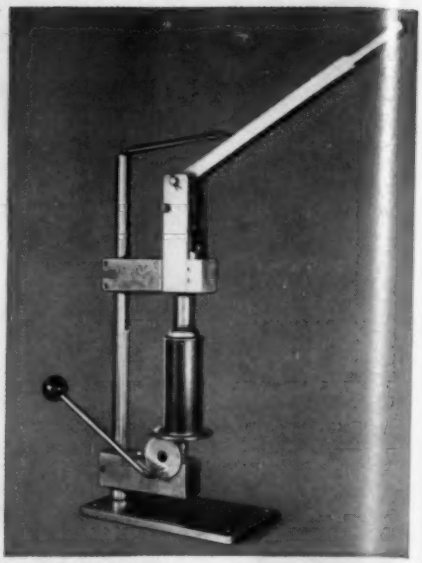
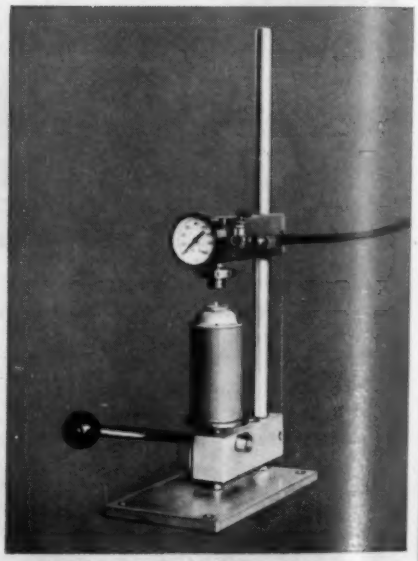


THIS Valve Crimper, which seats the valve in position and seals the can.



AND THIS Nitrogen Gasser, which applies the gaseous charge . . .

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THE MOST SATISFACTORY way to dispel any mystery over aerosol packaging is to test it yourself, in your own plant, with your own laboratory personnel.

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In most cases, the two manual units shown at the left are all you will need. Additional testing units—or the complete Mojonnier laboratory testing line—can also be rented at modest rates.

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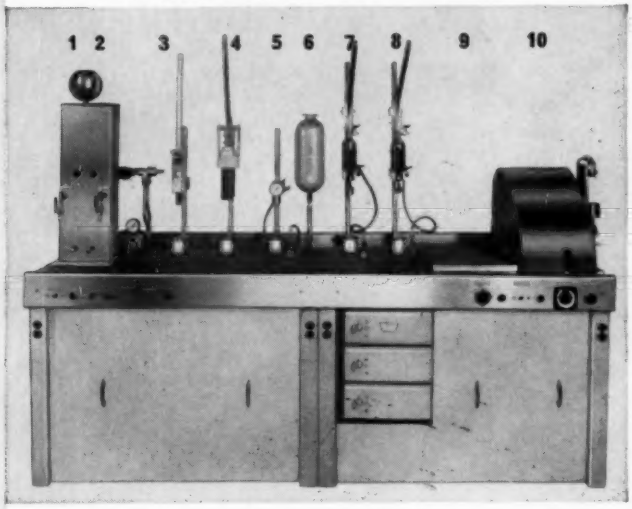
The ten Mojonnier aerosol packaging units assembled (below) in a complete laboratory testing line, with table and refrigeration equipment, can be rented all together for $900 a month.



Each of the above test units is also available separately, or in any combination, for the low monthly rentals listed here. Rental fees may at any time be applied to purchase price.

1-2. Cold fillers for releasing measured quantity of refrigerated product or propellant, $200 per month each.
3. Valve Crimper for cans, $25 per month.
With vacuum attachment, $37 per month.
4. Valve Crimper for bottles, $35 per month.
5. Nitrogen Gasser for applying gaseous charge, $30 per month.
6. Propellant Filler for low-pressure liquids, $10 per month.
7-8. Propellant Fillers for pressurized liquids, $65 per month each.
9. Water Bath, to test for leaks, $45 per month.
10. Tumble Gasser for dissolving soluble propellant into product, $105 per month.

Mojonnier Associates

E. O. Bruun (Nivea, Copenhagen), Dr. Egon Honisch (Aeratom) IAA vice-president and secretary, and H. Lang (Nivea). Messrs. Lang and Bruun are, respectively, new members of the IAA Technical Committee and of the IAA Executive Committee.

J. H. Bailey (DuPont, Wilmington, Del.), Odd Lea (DuPont, Basel), W. G. Delmore (Precision Valve International), M. Lessenich (Farbwerke Hoechst) and Gerald Mayer (Precision Valve International), president of the IAA.

International Aerosol Association Holds Technical Meeting in Zurich

By Dr. Tom C. Clark

Aerosol Age European Representative
Druk-Pak, Ltd., Zurich

ON SCHEDULE and with full "aplomb" the International Aerosol Association held its second annual meeting in Zurich, Switzerland, on May 8, in the Guild House "Zur Meise" (located in the City's center next onto the original Zwingli Reformation Church). It was a most successful meeting, with over 65 people in attendance representing companies in 10 European countries from all branches of the aerosol industry.

In a way, the meeting was a tribute to Gerald M. Mayer, first and re-elected president of the IAA. Mr. Mayer is also head of the new Federation of European Aerosol Associations, which has inherited the not uninvolved task of organizing a genuine trade association representative of the entire European aerosol industry. Some mention of Mr. Mayer's singular accomplishments in the past 15 months would be warranted.

In Western Europe, old wounds fortunately now seem to heal more rapidly. In this trade association movement, about one year ago, a particularly deep rift threatened to develop -- a condition which could have nullified the whole association idea for years to come. Two national groups were on the verge of an open break, the consequences of which would have extended well beyond their boundaries and adversely affected the entire European industry. Confronted with this touchy dilemma, the English said they already had too many trade associations. The Finns organized their own. The French came up with *two* and the CSMA, understandably puzzled by a typically European political outburst in a simple industrial field, pulled in its horns to await further developments. Under Mr. Mayer's guidance, these differences were reconciled and now appear about to culminate in complete success of the whole idea.

Working mostly behind the scenes (though openly when necessary) and guided by an objective interest for the industry's welfare, Mr. Mayer has brought about the current state of harmony which, we believe, will be so evident at the Paris meeting on June 26. The burden on his free time will be well understood by American industry trade association executives, but the difficulties of handling the problems in three or more languages among all the nationalities involved may be beyond their comprehension.

To bring about this harmony, considerable back-tracking had to be accomplished. Association charters had to be amended and a new organization brought into existence. The excellent report of April 1958 to the CSMA by Fred Lodes on the European situation had considerable bearing on the outcome since it outlined the path to a rational recognition. Now the way has been paved.

Under the new management, the Federation of European Aerosol Associations, with its principal office and secretariat in Zurich, will take over as *the* European representative association. Its officers, directors, and committee members will be chosen from the individual associations in the different countries. In case any country does not form its own association, the companies eligible for membership in that country will be represented through the IAA until they do form such an association.

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Dr. Mario Ambroso (Oreal, Turin), Dr. Mario Ramella (Solfrene, Milan), and Dr. Nana (Bombrini Parodi-Delfino, Rome) confer during one of the intermissions.

Therefore IAA will have as permanent members the eligible companies in Switzerland as well as those in other countries which do not form their own national associations.

It is planned that the Federation will issue a periodic bulletin in three languages and the individual country associations may or may not issue their own, as they choose. The IAA has decided to give up its publication and will distribute only the one from the Federation.

THE business of the May 8 meeting moved smoothly at the morning sessions with all three officers: Mr. Mayer as president, Dr. Egon J. Honisch as vice-president and secretary, and Emil Hirschburger as treasurer, being re-elected to their respective offices. The treasurer's report on a budget of around $3,000 showed a deficit of only $50. By reason of the new set-up with the federation, the three vacancies occurring on the executive committee were filled by:

Mr. Walker-Leigh (of Cooper McDougall & Robertson Ltd., Berkhamsted, England),

Mr. -José Puig (of Aeropak SA, Barcelona, Spain),

Mr. E. O. Brunn (of Nivea A.S., Copenhagen, Denmark).

Vacancies left similarly vacant on the Technical Committee were filled by:

Mr. Holger Lang (of Nivea A.S., Copenhagen, Denmark), and

Mr. Rubio (of Preval S.A., Barcelona, Spain).

Mr. Wettler of the Swiss company Pluess-Staufer AG of Oftringen, representing Farbwerke Hoechst of Germany, and Mr. Matthey of Holger Andreasen, Berne, Switzerland, representing DuPont, were both elected to the Technical Committee for propellant coverage. All other committee members, having been elected for a 2-year term at the last meeting, continue in their positions.

Despite the recently quick turnover in membership, the IAA has an average membership of approximately 50 companies of which about 20 are from Switzerland itself, with the remainder from other countries.

After a pleasant lunch served in a large baroque style room in the old Guild House, with plenty of opportunity for personal discussions, the meeting settled down in the afternoon to its technical program of four papers.

Mr. Lessenich of Farbwerke Hoechst AG, Germany's leading propellant manufacturer, reported on the different types of spray patterns produced with liquids from aerosol packages. He showed that the spray pattern depends primarily on three basic factors: propellant working pressure, mixture ratios of product to propellant and, finally, the type of spray nozzle employed, i.e. plain or with a built-in mechanical break-up. The studies on which his conclusions and slides were based were made at the Hoechst aerosol laboratories, of which Mr. Lessenich is director.

Dr. P. H. Witjen's paper on nitrogen packages turned out to be more of an introductory review of the aerosol field and the different kinds of products currently on the market. Dr. Witjen's company, N. V. Pola[illegible] & Schwarz of Holland, is essentially concerned with the perfuming of aerosol products.

Just recently back from an extensive U.S. observation trip, Dr. H. Meuresch of Precision Valve International (which is opening a new testing laboratory in Zurich, of which he will be director) gave an account of some of the highlights gathered on visits to leading U.S. industry members.

Probably the most interesting paper of the meeting was presented on "Aerosol and Food Technology," by Dr. Claude Giddey, of the Battelle Memorial Institute of Geneva. For some time, this Institute has been working on pressure packaged foods for most of the leading European as well as a few U.S. food packaging and marketing companies. Staffed with over 300 chemists—not all, of course, working on aerosol foods—they have filled and tested thousands of cans with such products as soups, sauces, gravies, vegetables, coffee, tea, cocoa, spices, catsup, mayonnaise, etc., with varying results and conclusions. Basically, the Battelle researchers have found a necessity of discarding all previous concepts about food packaging and starting literally from scratch with new break-downs and mixtures of the foodstuff they are dealing with, viscosity being their biggest problem. Perhaps Dr. Giddey's concluding paragraph best summarizes the status of their research: "I should like to conclude by emphasizing again that aerosols will represent an important development in food technology. The first phase of this development will meet with great difficulties and adverse opinions, and it is only by adequate technical and scientific effort that these obstacles will be overcome."

All of the papers, as well as the meeting's proceedings, will be published in the final number of IAA's bulletin.

From general comments privately exchanged at the meeting it was gathered that practically all European loaders, valve manufacturers, etc., are

(*Continued on Page 76*)

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Aerosol of Georgia, Inc.
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Newark, New Jersey
Aerosol Techniques, Inc.
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Armstrong Laboratories
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Claire Mfg. Co.
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Broadview, Illinois
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Danville, Ill.; Hobart, Indiana
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Fluid Chemical Company, Inc.
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La Maur, Inc.
Minneapolis, Minn.
Larami Associates, Inc.
York, Pa.
National Spray Can Filling Corp.
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Orb Industries
Springfield, Pa.
Panpak
Attica, N. Y.
Peterson Filling & Packaging Co.
Danville, Illinois
Powr-Pak, Inc.
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Cleveland, Ohio
Professional Products Laboratories
Baltimore, Maryland
Puritan Distributors Co.
Boston, Mass.
Scranton Aerosol Packaging Div. of the Scranton Corporation
Scranton, Pa.
Shield Chemical Co.
Boston, Mass.
Southeastern Packaging Co.
St. Petersburg, Fla.
Sprayon Products Inc.
Cleveland, Ohio; San Francisco, Calif.
John C. Stalfort & Sons
Baltimore, Maryland
Strobel Products Co., Inc.
Louisville, Ky.
Strouse Inc.
Norristown, Pa.
Thomasson of Pa. Inc.
Norristown, Pa.
Wellston Aerosol Mfg. Co.
Wellston, Ohio

Macy's private brand hair spray was prominently displayed throughout the cosmetic department. There were also "Moth control centers" set up throughout the store, with aerosols dominating each display (see cover photo).

DuPont—Macy's Aerosol Promotion

PROBABLY the largest single aerosol promotion campaign in the history of the industry was held by DuPont and Macy's department store, New York, during the three-week period from May 18 through June 6. Aerosols were featured in nearly every department, and four show windows along 34th Street were devoted almost exclusively to aerosols.

Above: one large store window featured Macy's line of garden aerosols. At left: Macy's hair spray, along with other hair care aerosols, occupied another window Since the promotion wasn't restricted to the "Freon" Products Department of DuPont, a number of products (including plastics) are also on display from six of the company's other divisions.

Another window was devoted to colognes, perfumes, and other luxury toilet goods products. Here too aerosols predominated. Still another window featured Macy's line of spray paints.

She looks around, before she buys any perfumed product. Many times, she chooses by fragrance. She never knows that her favorite fragrances often come from Norda good scents.

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Aerosol Food Symposium Highlight of IFT Meeting

By Richard D. McNally
Aerosol Age Staff

IN a Packaging and Pressurized Containers symposium at the 19th annual meeting of the Institute of Food Technologists in Philadelphia, May 17 to 21, Robert C. Webster, Air Reduction Co., Madison, Wisc., reported that a mixture of nitrous oxide and "Freon-C318" propellant will prolong the time during which pressure-packaged whipped cream presents a fresh, appetizing appearance.

The new propellant was discussed in a paper prepared jointly by Mr. Webster and Dr. Frank W. Blodgett, E. I. du Pont de Nemours & Co., Wilmington, Del. "Freon-C318" is a liquefied compressed gas, with a vapor pressure of 25 psig at 70° F. Mr. Webster said that the low solubility of "Freon-C318" in water, and its high molecular weight, are critically significant in preserving a fine bubble structure throughout the foam, and would result in improved foam rigidity and stability.

A saturated fluorocarbon, "Freon-C318," is suitable for use in food products, Mr. Webster said, because it is odorless and tasteless, chemically stable and nontoxic. It is inherently more expensive than the compressed gas propellants, however, and its vapor pressure at refrigerator temperatures is too low for fully satisfactory aerosol performance with viscous food products, he pointed out. For these reasons, Mr. Webster explained, the possibility of using a mixture of nitrous oxide and "Freon-C318" was investigated in order to take advantage of the best performance of each.

It appears, he continued, that "Freon-C318" and nitrous oxide form a homogenous liquid phase under sufficient pressure, and that this liquid, after vaporization, can be charged into aerosol dispensers through a reducing valve. A conventional gasser-shaker can be used, he said, and the composition of the propellant gas remains constant when drawn in liquid phase from the high-pressure cylinder.

In tests of the retention of foam stability, whipped cream of 20% and 30% butterfat content, with and without 15% of "Freon-C318" in the propellant, were held at 70° F. and evaluated visually. The results indicate that in whipped cream of both 20% and 30% butterfat content, "Freon-C318" gives a marked improvement in retention of firm whip with sharp fluted edges, good color, and minimum drainage, Mr. Webster said. The difference from straight nitrous oxide samples, he continued, is strikingly apparent at 30 minutes and persists after an hour. Even after 24 hours, the samples containing "Freon-C318" retain about half of their original shape and general appearance, he pointed out.

While the initial development price of "Freon-C318" is $20 per pound, Mr. Webster said, long range, high volume, estimates place it in the neighborhood of $2 per pound. The current price for nitrous oxide is 30 cents per pound. Mr. Webster pointed out that the mixture of the two gasses might make whipped cream propelled with "Freon-C318" competitive with conventional compressed gas packages. Although the package cost would be a half a cent or so higher, the improved product would be a "better buy," he concluded.

E. D. GIGGARD, Continental Can Co., Chicago, reported on aerosol coffee and said that liquid coffee concentrate is one of the products that has an especially promising future in aerosols. In 1958, he said, powdered instant coffees accounted for approximately one third of the total home coffee consumption in the United States. The existence of a substantial market for this product, he said, relies mainly upon the convenience factor since flavor, in most instances, does not equal that obtained from freshly brewed coffee. It now appears, Mr. Giggard declared, that it may be practical to market a liquid concentrate (in an aerosol container) which more nearly approaches freshly brewed coffee flavor.

One of the main points covered by Mr. Giggard was the necessity of maintaining the flavor and aroma of the product in storage. He said that flavor deterioration seems to progress during storage *regardless* of the packaging method. The flavor of concentrate stored at 70° F. deteriorated slowly during the first month of storage, he said, but it deteriorated rapidly thereafter. When stored at 40° F., the flavor lasts for two months and when frozen, the concentrate retains its flavor for longer than two months, Mr. Giggard reported. He added that there appears to be no particular advantage to storage at below normal freezing temperatures.

Mr. Giggard said that the physical requirements for properly packaging aerosol coffee already are available in presently designed aerosol cans and valve units. Spoilage that has occurred, he said, is due to inadequate heat treatment of the product. He said that sterilization appears to affect flavor and recommended the employment of high temperature, short time sterilization as the best method of avoiding spoilage.

The original flavor of the coffee is retained in the aerosol concentrate, he said, because the drying process in the procedure for making regular instant coffee is eliminated.

A paper on the effect of various gasses on spoilage of pressure

(*Continued on Page 72*)

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Cologne Bouquet	DH-117
Carnation	DH-131
Cedar Wood	DH-132

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Cologne	DH-23
Bouquet	DH-28
Floral	DH-57
Lavender	DH-66
Lilac	DH-72
Floral Cologne	DH-83
French Oriental	DH-87
French Bouquet	DH-90
Cologne	DH-111
Jasmin Bouquet	DH-123
Mist Bouquet	DH-125
Mist Bouquet	DH-130
English Lavender	DH-133
Oriental Bouquet	DH-138
Sandalwood	DH-149

HOUSEHOLD & AIR FRESHENER SPRAYS

Cologne	DH-23
Siberian Pine	DH-29
Pine Wick Type	DH-30
Xmas Tree Pine	DH-31
Meadowsweet Bouquet	DH-34
Bouquet	DH-41
Lavender Bouquet	DH-45
Rose	DH-55
Orange Blossom	DH-59
New Mown Hay	DH-69
Spice	DH-74
Pine Virgin	DH-112
Cool Mint	DH-115
Spice Lavender Bouquet	DH-129
Carnation	DH-131
Medicinal	DH-139
Cool Pine	DH-144
Lavender Bouquet	DH-150

HAIR LACQUER PVP

Cologne	DH-23
Rose	DH-55
Orange Blossom	DH-59
Floral Bouquet	DH-79
Friench Oriental	DH-87
Oriental	DH-103
Cologne Bouquet	DH-117
Carnation	DH-131

SHAVE CREAMS, SHAMPOOS, SOAPS

Spice	DH-40
Lavender Bouquet	DH-44
Oriental Bouquet	DH-54
Rose	DH-55
Spicy Floral Bouquet	DH-56
Lilac	DH-72
Bay Rum	DH-89
Lemon	DH-94
Carnation	DH-131
English Lavender	DH-133
Lavender Bouquet	DH-150

PHARMACEUTICALS

Spice	DH-40
Medicinal	DH-70
Bay Rum	DH-89
Lemon	DH-94
Lilac Bouquet	DH-95
Jasmin Bouquet	DH-123
Floral Bouquet	DH-147

CREAMS, LOTIONS, COSMETICS

Cologne	DH-23
Spice	DH-40
Lavender Bouquet	DH-44
Oriental Bouquet	DH-54
Rose	DH-55
Orange Blossom	DH-59
Lavender	DH-66
Floral Bouquet	DH-76
Lemon	DH-94
Lily Muguet	DH-102
Lavender	DH-119
Carnation	DH-131
Cologne	DH-142
Floral Bouquet	DH-147

MOTH & INSECT SPRAYS

Siberian Pine	DH-29
Cedar Balsam Pine	DH-33
Violet	DH-42
Spicy Mint	DH-50
New Mown Hay	DH-69
Spice	DH-74
Para Odor	DH-122
Jasmin Bouquet	DH-123
Cedar	DH-127
Cedar Wood	DH-132
English Lavender	DH-133
Lavender Bouquet	DH-150

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In this column important aerosol subjects appearing in other periodicals (both domestic and foreign) will be reviewed and summarized. It is felt that this service will enable the reader to keep abreast of most of the significant contemporary articles on the industry, even though they may appear in other periodicals. Since there is a chance that some pertinent articles may be overlooked, it will be helpful if readers will call our attention to any they judge important enough to review.—*The Editor.*

Illinois Bronze Installs Pressure Paint Line

A DESCRIPTION of the new aerosol paint filling facilities of the Illinois Bronze Powder Co., Chicago, paint marketer, is one of the features of the May issue of *Packaging Parade*. The article reports that Illinois Bronze has the most diversified (though not the largest) line of aerosol paint specialties in the country—and that it lists 70 different types of enamels, 24 floral sprays, and seven different aerosol stencil inks.

"Illinois Bronze has used pressure filling rather than cold filling equipment on its aerosol paint line from its inception primarily because of the difficulty in product filling paint at refrigerated temperatures of —35° which creates a very stiff, viscous product, resulting in slower filling speeds and added pressure requirements.

"The company also believes the added cost of refrigeration equipment to chill paint and propellant and the additional maintenance which is required—if paint should lose refrigeration and come in contact with chilled propellant in a warm condition, the resulting violent reaction could easily perform an unwelcome redecoration of the 'filling room'—are not warranted by any possible advantages provided by cold filling techniques. Cold filling, the company believes, is a fast and preferred filling technique for insecticides or deodorants which have a high alcohol content and remain liquid at low temperatures, but has relatively few advantages in paint filling."

Turning to a description of Illinois Bronze's new aerosol line, the article says that it has been custom built by Newman-Green, Inc., aerosol valve manufacturer, which is building the machinery under a special agreement with Illinois Bronze.

"Newman-Green is supplying a ball dropper, product filler, purger, crimper, and pressure filler, and also is designing and furnishing equipment to mechanize manual operations of inserting valve at the start of the line and applying spray top and overcap at the end of the line. Labeler is supplied by Chisholm-Ryder, bottom coder by Guttman Engineers, and Illinois Bronze built its own leak test tank.

"The new equipment being supplied by Newman-Green will operate on a single track with double intermittent motion processing two cans at a time (old line operates on two tracks with single intermittent motion). Illinois Bronze expects the line to operate at 80 to 85 12-ounce cans per minute.

"Major improvements on the line are in the realm of safety and general streamlining of the aerosol filling operation. Newman-Green has eliminated practically all electrical relays and switches in the operation of the line, substituting the mechanical interplay between cans and filling, purging and crimping equipment in place of timing devices. Pressure of filling, purging, crimping, and gassing heads on tops of containers activates operations and a spring-loaded conveyor holds cans firmly in place for centering below descending machine units. Electronic detectors automatically stop the operation of the whole line in case of a 'light' can. Hydraulic bypass valves cycle equipment when there is no container.

"The product fill pump is located at the paint drum rather than at the filler, simplifying clean-up at the filler and cutting chanegover time to a matter of minutes."

■

AN analysis of recent packaging changes, including the big switch to aerosols, is a feature article in the May 8 issue of *The Wall Street Journal*. Covering a wide range of packaging innovations all the way from blister packaging to new foils, the article (titled "Silent Salesmen") has the following to say about aerosols:

"Consumer fascination with convenience has led to recent expansion of aerosols—push button spray cans—into liquid instant coffee, shoe polish, pancake batter, cooking lubricant, and breath sweetener. Here too, the consumer pays for the convenience involved. For instance, four ounces of one prescription lotion in a bottle costs roughly $2.25. The same amount in an aerosol can now on the market costs $4.50, according to Lloyd Flanner, technical service representative for the General Chemical Division of Allied Chemical Corp., New York.

". . . The spiders, roaches, and other pesky bugs pictured on Lien Chemical Co.'s new cans are aimed at getting people to buy more of the

(*Continued on Page* 67)

News *of Pressure Packaging*

Ricca to "Isotron" Post

C. Brooks Ricca has been named sales manager for "Isotron" propellants by Pennsalt Chemicals Corp., Philadelphia. Formerly district sales manager for Pennsalt's Metal Processing chemicals, he will direct all sales activities for Pennsalt's full line of "Isotron" propellants throughout the United States.

Mr. Ricca, who joined Pennsalt as a metal processing chemicals salesman in 1950, has been metal processing district sales manager for the Eastern seaboard from Maine to Virginia for the past three years.

He is a U. S. Navy veteran who holds a B.S. degree in mechanical engineering from Villanova University. At Villanova he played varsity basketball for three years and was a member of the team which played in the NCAA tournaments of 1949 and 1950 and was runner-up for the national collegiate title in 1949.

He is a member of the Villanova Club of Philadelphia and the American Electroplaters Society. He served as librarian for the Philadelphia chapter of AEC for two years.

•

Johnson Builds New Plant

Construction on a new one million dollar plant exclusively for the manufacture of aerosol products was begun by S. C. Johnson & Co., Racine, Wisc., early last month. Most of Johnson's aerosol line of household insecticides, room deodorants, waxes, etc., is currently being filled by various custom fillers throughout the country.

The new plant is expected to be completed and ready for operation by Jan. 1 of 1960. It is located adjacent to Johnson's wax shipping center at Waxdale, eight miles from Racine.

•

Speaks to California SCC

A. L. van Ameringen, chairman of the board of International Flavors & Fragrances, Inc., New York, recently was the principal speaker at a dinner meeting of the California Chapter of the Society of Cosmetic Chemists, held in Los Angeles. Dr. Paul Jewel, Chief Chemist of Max Factor & Co., a former president of the Society and Chairman of the Program Committee, introduced Mr. van Ameringen, who spoke on the subject, "The Role of Fragrance in Cosmetic Products."

•

Jack Pickthall Visits U. S.

Jack Pickthall, chief research chemist at Polak & Schwarz (England) Ltd., a division of International Flavors & Fragrances, Inc., this month returns to England after a three-week business trip to the U. S.

Jack Pickthall, British aerosol expert

Mr. Pickthall is co-author (with Alfred Herzka of the Metal Box Co.) of "Pressurized Packaging (Aerosols)," the first definitive technical book on aerosol packaging.

During his visit he has spent most of his time at the New York perfume laboratories of van Ameringen-Haebler, another division of International Flavors and Fragrances.

•

O-M Revamps Insecticide Sales

The Olin Mathieson Chemical Corp., New York, last month announced a reorganization of its insecticide products department. Named to be assistant managers were K. B. Nash and A. E. Collazo. At the same time E. G. Hartzfield, former technical service representative, was appointed sales representative for the Southwest, with headquarters in Dallas. New manager of customer service is H. O. Manning, formerly in the order department.

The department's principal products will include DDT, "Terraclor," "Phytomycin," BHC, and "Omazene."

Aero-Chem Names Carrubba

Appointment of Philip Carrubba as technical director, was announced recently by Aero-Chem Laboratories, Bridgeport Conn., specialists in the filling of metered aerosol packages.

Mr. Carrubba was formerly chief control chemist for Connecticut Chemical Research and was responsible for setting up and maintaining specifications and control of all aerosol production. He has had considerable experience in research and production, as well as the development of aerosol formulations and packaging. He is a graduate of the University of Bridgeport, with a BA degree and is currently taking courses towards his Master's Degree.

•

Aerosol Production Clinics

Two clinics to consider technological problems of the aerosol industry will be held in October by the Chemical Specialties Manufacturers Association. The first session is scheduled for New York on October 17th and the second will follow a week later, October 24th, in Chicago. Announcement will be made later as to exactly where each clinic will be held.

The clinics have been scheduled in response to a general demand for such programs to assist in training and education of junior executives and junior technicians with aerosol companies, laboratory and production personnel, etc. Attendance will *not* be restricted to member companies in CSMA. Marketers of aerosol products, those connected with educational institutions, advertising and marketing agencies, etc., will all be welcome to attend.

•

Huston Appoints Ungeran

The House of Houston, aerosol pet products marketer and a division of Sterling Drug Co., New York, has announced the appointment of John Ungeran as coordinator of new products.

WE'VE GOT A NEW NUMBER

HICKORY 6-7640

...and Here are the People You'll Be Speaking to at CONTINENTAL FILLING CORPORATION
Clarence Carter President
Abbie Miller Treasurer
Chris Canaday Vice Pres. Secretary
Dean Duensing Office Manager
Earl Locker Purchasing
Bob Dickerson Traffic
George Fornero Sales
Jack Campbell Sales Manager
Jim Duncan Sales
Bill Donnelly Hobart Asst. Plant Mgr.
John Kraning Hobart Plant Manager
Bill Walker Plant Mgr., Dir. of Res.
Al Reynolds Vice Pres., Operations

Hobart (Ind.) Plant Number is Hobart-281

CONTINENTAL FILLING CORPORATION

Danville, Illinois

Zelle Joins Robins Eng.

The Robins Engineering Co., North Haven, Conn., late last month announced the appointment of Andrew J. Zelle as vice-president in charge of engineering and development. He will develop and expand the Robins line of special aerosol equipment and machines, which at present includes a pressure tester and a decrimper and valve remover.

Mr. Zelle is a veteran of 12 years in the aerosol industry. He recently left Aero-Chem Laboratories, Inc., Bridgeport custom filler, where he held the post of executive vice-president.

Prior to the formation of Aero-Chem (of which he was a co-founder) he was a consultant and member of the engineering staff of Valve Corp. of America. Prior to this, he served six years in various capacities at Connecticut Chemical Research Corp., where he was plant engineer, director of quality control, and director of packaging research. While there he was instrumental in the development of special production techniques and of a number of components used in packaging pressurized containers.

•

Lucky Whip to Canada

"Lucky Whip", vegetable-base aerosol whipped topping, marketed by Lever Brothers, Inc., New York, will be introduced this month in Canada by Lever's Canadian subsidiary, Lever Brothers Ltd., Toronto. Young & Rubicam Ltd., will handle advertising for the product.

•

Canco Names Three VP's

The American Can Co., New York, has elected three new corporate vice-presidents.

Albert O. Degling, head of purchasing for the firm's Canco Division, will be in charge of purchasing, traffic, real estate and general services for the corporation.

E. T. Klassen, in charge of Canco Division industrial relations, will handle industrial relations policies for the over-all corporation.

C. F. Lausten, head of the Canco Division equipment department, will be in company-wide charge of research, development and machinery.

Messrs. Degling, Klassen and Lausten, in addition to their new corporate responsibilities, will continue in charge of their respective departments in the Canco Division. Dr. Roger H. Lueck, a corporate research vice-president, will continue to function in that capacity in association with Mr. Lausten.

•

Prince Matchabelli Moves

The new address of the office of Prince Matchabelli Inc. will be 485 Lexington Avenue, New York 17, New York. Simonetta Inc. and Black Watch, subsidiaries of Prince Matchabelli will also be located at this same address.

The Prince Matchabelli Company leaves 415 Madison Avenue after having been there for three years. The new offices of the company and its subsidiaries will be adjacent to those of Chesebrough-Pond's Inc., the parent company of Prince Matchabelli.

•

McKernan Becomes Mfrs. Rep.

Edward J. McKernan, sales manager of Seaquist Manufacturing Corp., Cary, Ill., last month resigned that company to become a manufacturers' representative. Mr. McKernan is chairman of the executive board of the Aerosol Division of the Chemical Specialties Manufacturers Association.

As a manufacturers' representative, he will handle Seaquist's line of aerosol valves, in addition to caps and other aerosol package components. Late last month he announced that his office will be at 314 E. Chicago St., Elgin, Ill. Telephone is SHerwood 1-7545.

Mr. McKernan joined Seaquist in 1953, after five years with Continental Filling Corp., Danville, Ill. Prior to that he spent three years in the research department of Continental Can Co., Chicago.

Koken to Mojonnier

Ernest E. Koken has been named engineering manager of Mojonnier Associates Division, Kartridg-Pak Machine Co., Franklin Park, Illinois, makers of aerosol packaging machinery. This title was formerly held by Albert B. Mojonnier, who will henceforth concentrate on initial development of new machinery and products in the company's new research facilities.

Mr. Mojonnier and his staff will occupy the company's new research and development laboratory, located in Franklin Park about a mile from the main plant. He will report directly to George Heath general manager, and will function exclusively as an advisor on new products and machinery.

The establishment of the new research section and the separation of the initial development work under Mr. Mojonnier from the rest of engineering under Mr. Koken are part of management's plan to give the aerosol industry the highest quality machinery possible, according to Mr. Heath.

Mr. Koken comes to Mojonnier with a wide background of packaging machine design. He has been Research and Design Engineer with Bartelt Engineering Co., Rockford, Ill., and was previously with the Hudson-Sharp Machine Co., Green Bay, Wisc., and with the Hayssen Manufacturing Co., Sheboygan.

•

Cowles Appoints Nielsen

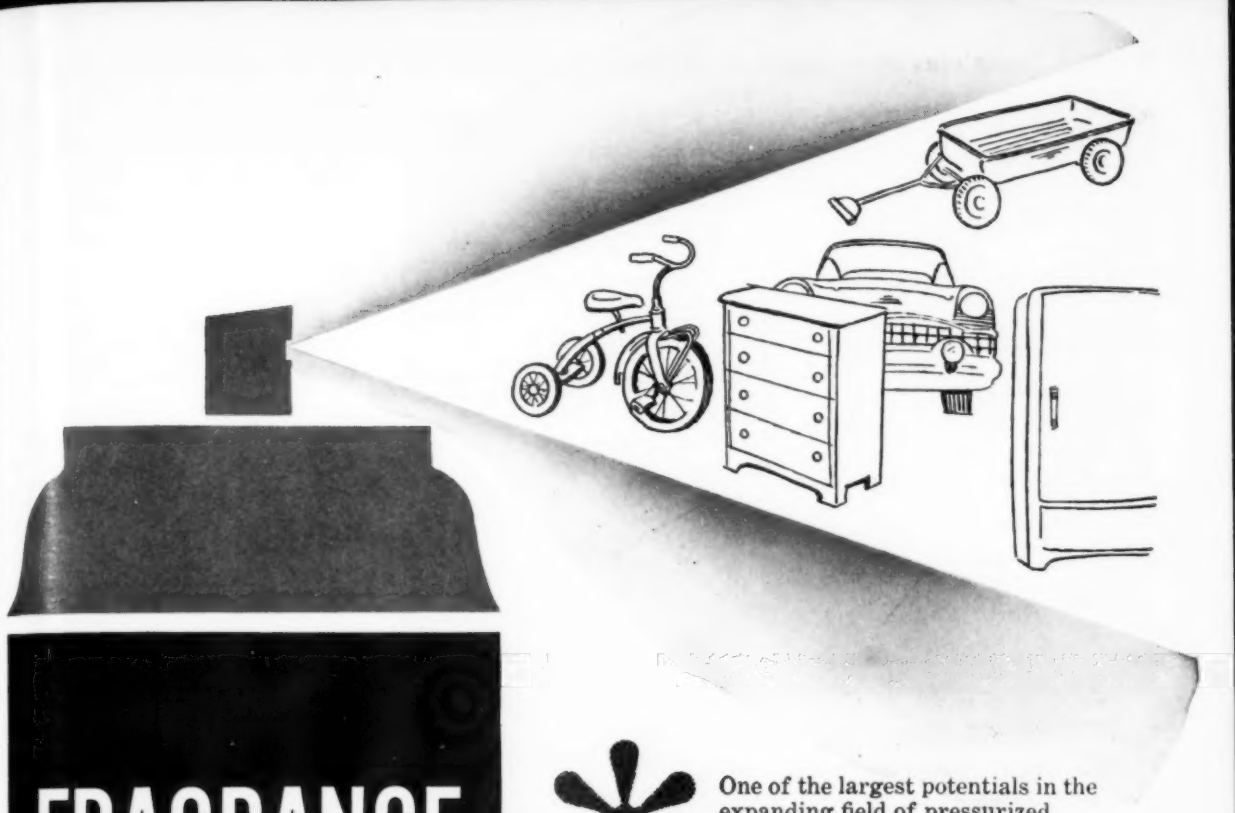
Cowles Chemical Co., Cleveland, manufacturer of aerosol insect repellent raw materials, has announced the appointment of A. T. Nielsen as plant manager of its operation at Skaneateles Falls, N. Y.

He comes to the post from a position as manager in charge of the production of chemicals and vitamins at the Groton, Conn. plant of Chas. Pfizer & Co.

•

ConCan Establishes L. I. Office

Continental Can Co., New York, has established a new sales office at Maspeth, Long Island. R. D. Slocum will be in charge of the new office which is a split of the New York district office. Mr. Slocum was formerly an assistant to L. G. Cannella, sales manager of the New York district. The Maspeth office will service the territory of Long Island, Westchester County and Connecticut west of the Connecticut River.



FRAGRANCE APPEAL for your AEROSOL PAINT !

One of the largest potentials in the expanding field of pressurized products is the market for aerosol paints. Combining the convenience and tidyness of the aerosol package with the nation's current "do it yourself" mood, spray paints for touching up toys, cars, furniture, woodwork, appliances and a host of other household tasks have a sure-fire appeal. With their primarily indoor function, it is particularly important for aerosol paints to be either odorless, or pleasantly scented. This involves both masking and/or reodorizing the solvents and the resins, at the same time keeping the total formulation compatible with propellent and container. The D&O Aerosol Testing Laboratories have successfully resolved this problem for a number of different aerosol paint products, including *lacquers, enamel, paint removers* and *solvent combinations.* This experience, and the facilities of the labs, are at your service! Consult D&O.

"Essentially for you"

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DODGE & OLCOTT, INC.

180 VARICK STREET • NEW YORK 14, N.Y.

Sales offices in Principal Cities

Essential Oils • Aromatic Chemicals • Perfume Bases • Flavor Bases • Dry Soluble Seasonings

Stalfort Completes New Sterile Food Line

THE first high-speed all-stainless-steel filling line east of the Mississippi for loading pressurized food products in aerosol containers was put into operation last month in Baltimore, Md., by Stalfort Pressure-Pak Corp. The glass enclosed sanitary filling line has a capacity of 120 units per minute. It was designed and engineered specifically for packaging pressurized food products.

A spokesman for the company said its new line can handle any product suitable for aerosol dispensing, such as sprays, foams, syrups, etc. Some of the food products now being filled or tested are salad dressing, garlic sauce, sundae topping, cake frosting, barbecue sauce and meat tenderizer.

The new line is so designed that every movable part that comes in contact with the food product can be dismantled and sterilized by scrubbing and flushing with a germicide solution. This is done at the end of each production day and again before the line is started the next morning. Complete sanitary conditions are maintained by having the filling line in a segregated area completely enclosed by glass. Walls, ceilings, and floors are also scrubbed and flushed with the sanitizing solution twice a day, and all operators are required to observe precautionary measures to maintain sanitary conditions throughout production runs.

Further information and production details may be obtained by writing to the company at 321 W. Pratt St., Baltimore 1, Md.

•

Muscat Expands Interests

Victor Muscat, president of Victor Metal Products Corp., Greenwich, Conn., aluminum aerosol container manufacturer, last month announced formation of a new company called Victor Film Enterprises. The new venture will be a division of Victor Industries (which Mr. Muscat also heads) and will purchase entire film libraries for re-sale or rental to television networks and stations.

According to the initial report announcing the formation of the new company, it will utilize a fund of $2 million to purchase the films.

•

Ecuador Pyrethrum Plant

A small but modern and well-equipped plant for the manufacture of pyrethrum extract was recently established at Guapulo, near Quito, Ecuador. Most of its production will go to the U. S., where the material is a leading aerosol insecticide component.

The plant, built by the recently formed Industria Extractors, S.A., will operate 24 hours a day to produce a daily production of about 93.7 pounds of extract from 1409 pounds of pyrethrum flowers. Cultivation of pyrethrum flowers began in Ecuador in 1941, though pyrethrum wasn't exported commercially until 1953.

•

VCA Names Midwest Agent

Appointment of Buckingham Associates, 7634 North Rogers Ave., Chicago, as its Midwest sales representative has been announced by Valve Corp. of America, Inc., Bridgeport, manufacturer of aerosol valves and fitments.

Organized five years ago by John D. Buckingham and W. E. Wingard, Buckingham Associates specializes in package design and represents manufacturers of packaging components in the toiletries and pharmaceutical fields. VCA metered valve components and stainless steel containers are used extensively in toiletry and pharmaceutical aerosols.

Prior to their present association, Mr. Buckingham and Mr. Wingard were with Lucien Lelong, Inc., cosmetic marketer, in Chicago. Mr. Buckingham was in charge of that firm's package design, development, purchasing and manufacturing for 20 years, while Mr. Wingard was purchasing director for 11 years.

•

Bradley-Sun Appoints Two

The Bradley-Sun Division of American Can Co., Hillside, N. J., has named Albert B. Nichols, Jr., general sales manager, and Harold M. Hansen assistant general sales manager. The Division recently announced plans to enter the aerosol aluminum container market later this year.

Mr. Nichols had been assistant general sales manager and Mr. Hansen district sales manager for the division in Philadelphia.

•

Tasti-Cup Names Ad Agent

Tasti-Cup Coffee Co., New York, manufacturer and marketer of the first aerosol instant coffee, last month named L. H. Hartman Co., New York, to be its advertising agency.

Research Men in Air Crash

C. C. Alexander, head of research for the Agricultural Chemicals Division of the Geigy Chemical Corp., Ardsley, N. Y., and Dr. Arnold Pensig, a director of research for Chas. Pfizer & Co., Brooklyn, were among the 31 passengers killed in the mid-air explosion of a Capital airliner near Baltimore, Md., on May 12. The airliner, bound for Atlanta, exploded from causes tentatively identified by investigators as a combination of extremely turbulent weather and structural factors.

Killed in the same crash were George Griffiths, 61, director of traffic for American Home Products Corp., New York and Dr. William Gittinger, 33, medical director of the Pfizer Laboratories Division of Chas. Pfizer & Co.

Mr. Alexander, who was 46 years old, was a graduate of Purdue University and had a master's degree from Ohio State University. Prior to joining Geigy in 1944, he was with the U. S. Department of Agriculture in Yakima, Wash.

•

To Amend Miller Bill

A bill to amend the Federal Insecticide, Fungicide, and Rodenticide Act has been introduced in Congress by Rep. Harold Cooley, (D-N.C.), chairman of House Agriculture Committee. The amendment would extend the bill's coverage to include nematocides, defoliants, desiccants, and plant regulators. It would also amend certain other definitions in the act and add some additional ones, though it won't change the act's principal provisions. A parallel bill was introduced by Senators Spessard Holland and George D. Aiken in the Upper House.

The only one of these materials, which has so far been of commercial importance from an aerosol standpoint, is "plant regulators," which include plant growth stimulants of the gibberellin type.

The bill is currently expected out of Committee at any time, and since it was introduced by Rep. Cooley, is expected by House press observers to be quickly passed. It would become effective upon enactment and permit the USDA to begin registration of the newly-regulated products. However, provision is made in the bill that certain sections would not be applicable until March 5, 1960.

•

New Dow Chlorothene Plant

Construction of a new plant for the production of Chlorothene, aerosol propellant extender, has been begun by The Dow Chemical Co. at Plaquemine, Louisiana. Chlorothene is inhibited methyl chloroform, a Dow industrial solvent introduced in 1954.

•

Abelson Joins Fluid Chem.

Fluid Chemical Co., Newark custom filler, last month announced the appointment of Ron Abelson, to its sales staff. He was formerly with the New York sales department of Crown Cork & Seal Corp., Philadelphia.

Beardsworth to Risdon Post

Donald A. Beardsworth has been named midwestern manager of the Aerosol and Industrial Products Division of The Risdon Manufacturing Co., Naugatuck, Conn., effective July 1. The Aerosol Division manufactures aerosol valves and complete aerosol containers for the fragrance, pharmaceutical and home products industries. Risdon's Industrial Products Division fabricates drawn and formed metal components for a wide range of industrial and consumer products.

Mr. Beardsworth will succeed Andrew Peasco, who is returning to Risdon's headquarters' office for a new assignment. The Chicago territory includes Illinois, Indiana, Wisconsin, Iowa and Minnesota. Headquarters is at 224 S. Michigan Ave., Chicago.

Prior to joining Risdon late in 1958, he was a sales engineer with Union Wire Die Corp., New York, and, before that, with Hunter Spring Co., Lansdale, Pa. He is a mechanical engineering graduate of Georgia Institute of Technology. During World War II he served in the European Theater with the Corps of Engineers.

Aerosols Are Featured at South African Science Exhibition

The aerosol demonstration included a complete laboratory filling installation.

A complete aerosol demonstration, together with charts showing how the aerosol principle works, was the feature of one of the exhibits at the Science Exhibition sponsored by The Cape Council of the South African Association for the Advancement of Science at Cape Town, South Africa, April 6-11. The exhibit was held in collaboration with The Royal Society of South Africa to show examples of the application of science to industry.

The aerosol exhibit was sponsored by the Research Division of the Metal Box Co. of South Africa, Ltd., Johannesburg, sole aerosol container manufacturer in that country and supplier of Precision valves made under license by the parent company, The Metal Box Co., Ltd. of England. Actual products, including insecticides, shaving creams, and toothpastes, were filled during the demonstration, to show the cold, pressure, and compressed gas filling techniques.

One of the objectives of the exhibit was to demonstrate to the public the advantages of this type of packaging. D. V. Sevenoaks, of Metal Box's Commercial Department, reports that "considerable public interest" was evoked.

Yardley to Build New Lab

Yardley & Co., Ltd., New York and London, world-wide cosmetic marketer, has opened a new division, called Yardley International Research Laboratories, in Union City, N. J. The new unit will be under the direction of Sabbat J. Strianse and will have the primary job of making long-range studies augmenting the present research operations of the company.

According to a Yardley spokesman, the U. S. was chosen as the site for the laboratory in recognition of its major contributions to cosmetic technology.

•

Revlon Names 2 Execs.

Revlon, Inc., New York, major aerosol marketer, has announced the appointment of Alec Faberman to the post of vice-president and controller. He had been budget manager.

At the same time the company appointed Mort Green, noted creative writer for television and past recipient of the Peabody Award, to be director of television and radio.

The "Liliput", A NEW SEMI-AUTOMATIC FILLING MACHINE

This two-station filler is designed especially for filling bottles with a spray mouth-piece, star drop glasses, narrow hole bottles, capillary drop bottles, and perfume and pharmaceutical flasks of all sorts from ½ ml to 250 ml in volume.

Depending on width of the container opening, the capacity of the "Liliput" is approximately 2000 to 3000 units per hour (with 2 filling heads) or 4000 to 6000 per hour (with 4 filling heads). Even the most viscous liquids can be filled.

The "Liliput" unit is supplied in a standard, long-lasting finish. It is entirely German-made. Filling heads can be supplied with four different capacities:

(1) 5 and 10 ml
(2) 20 and 30 ml
(3) 50 and 100 ml
(4) 150 and 250 ml

By means of these special filling heads there is no chance of filling error, since the heads can be changed in just a few minutes. Also, the filling speed is determined by means of one counterscrew being provided with a plus and minus mark which can be adjusted during the run of the machine.

The "Liliput" can also be supplied:

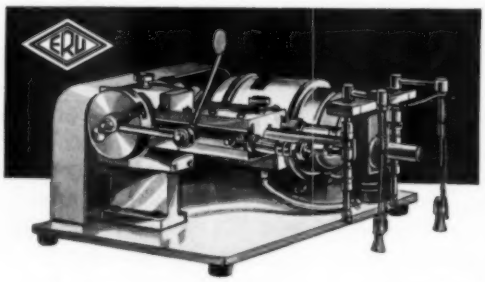
(1) without drop-back suction for bottles.
(2) with drop-back suction for ampules.
(3) with vertical suction-off for perfume flasks.

The price of the unit with 2 filling heads is DM 2600 ($624); with 4 filling heads DM 3800 ($900) . . . Prices less rebate.

Weight of the Machine: approximately 45 kg.

Measurements: approx. 65x45x35 cm.

When ordering, current voltage and line voltage should be specified.



RUDOLF W. FRITSCH

42 Richard Wagner Straase (pa) Bayreuth, Germany

Boyle-Midway Names Thomas

Douglas W. Thomas has been elected vice president in charge of production and manufacturing for the Boyle-Midway Division, American Home Products Corporation.

Thomas has been assistant to the president since 1955. Prior to that appointment, he had service as production manager for 15 years for the Boyle-Midway plants in Cranford, New Jersey, and earlier, in Jersey City.

Before joining the then A. S. Boyle Company in Baltimore, Maryland, in 1940, Thomas had been with Shell Oil Company in Houston, Texas, as a laboratory technician.

The new vice president is a graduate of Johns Hopkins University's School of Engineering in Baltimore, with post-graduate work in management engineering at Stevens Institute of Technology, Hoboken. He is a resident of Roselle Park, New Jersey.

•

Albert Fuller Killed

Albert H. Fuller, president of Fuller Brush Co., major aerosol product marketer, died early last month in a car crash near Hawthorne, Nevada. The 47-year-old executive had been president of the company, which was founded by his father, since 1943. The elder Mr. Fuller, Alfred C. Fuller, is still chairman of the company's board of directors.

Mr. Fuller's wife, Dora, also died as a result of injuries suffered in the same crash.

•

Dr. Lehman Honored

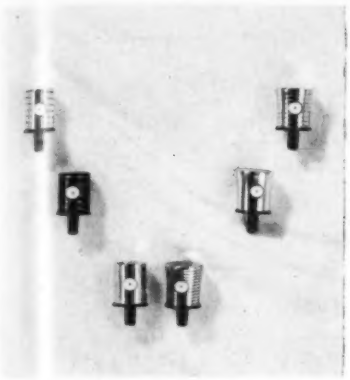
Dr. Arnold J. Lehman, director of the Division of Pharmacology of the Food and Drug Administration, has been awarded his department's distinguished service award for "oustanding contributions to science and to public health through development and application of pharmacological methods in the examination of foods, drugs, and cosmetics."

•

Daily to Silicone Post

Robert T. Daily has been named manager of marketing for the Silicone Products Department of General Electric Co., Waterford, N. Y. He has been in the department since 1954, and prior to his new appointment was manager of rubber market development.

New "Jewel-Like" Activators



Six new aerosol valve actuator designs are now being produced by Societe Francaise de Recherches Aerosols, the French licensee of Aerosol Research Co., Forest Park, Illinois. The actuators are mainly designed for use in the cosmetic field.

Three of the actuators have a new flared shape, and the other three slim lines have a more formal effect. Designs vary, employing linear etchings and black and gold color combinations. More information may be obtained by writing Aerosol Research Co., 743 S. Circle, Forest Park, Illinois or Societe Francaise, 17 Rue de Joly, Creteil (Seine), France.

•

New British Pet Line

G. Havinden & Co., Ltd., London, has introduced a new line of pet products in aerosol form for the British market. One, called "Preen," is claimed to destroy red mite on cage birds and poultry. The other, called "Pine Groom," is a deodorant, hide conditioner, and flea killer for dogs. Both will retail at the British equivalent of 84 (U.S.) cents.

•

New Fungicidal Paint

A new fungicidal paint, formulated to be self-sterilizing with a non-toxic additive, has been developed by Charles Bowman & Co., 220 E. 42nd Street, New York 17, for use in food and beverage plants. It may be used on primed metal, fibre-board, wood, masonry, concrete, plaster, and cement blocks, and is claimed to have a high residual action to prevent mold and bacteria growth.

Equipment— Processes— Bulletins—

Aerosol Lab Equipment Offered on New Rental Plan

IN a merchandising step calculated to double the potential market for its aerosol packaging machinery within 18 months, Mojonnier Associates, last month announced a new rental plan whereby prospective packagers can do their own laboratory experimenting for as little as $55 per month rental. This is reportedly the first time complete laboratory equipment for aerosol packaging has ever been offered for rent.

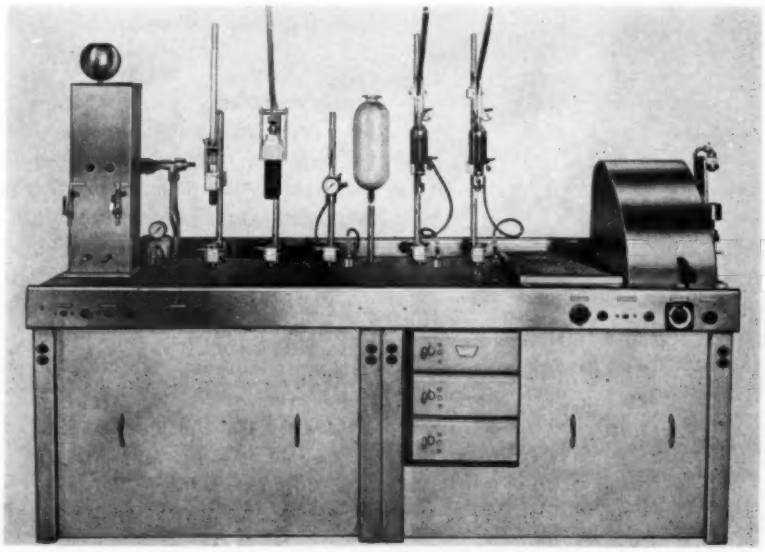
Mojonnier Associates, a pioneer and largest manufacturer of complete aerosol packaging lines, last Oct. 1 became a division of Kartridg-Pak Machine Co., itself a subsidiary of Oscar Mayer & Co.

George W. Heath, General Manager, declared: "This plan brings the cost of investigating aerosol packaging down to a ridiculously low figure. In many cases, the prospective packager will have negligible other out-of-pocket costs because leading suppliers of valves, containers, and propellants are generally glad to cooperate in such tests. Any manufacturer or processor who even suspects that aerosol packaging can be a factor in his future can now hardly afford not to look into it.

"The two units offered for $55 per month are simple table-top machines that can easily be set up and operated on any laboratory bench. They are a valve crimper (which seats the valve in position and seals the can) and a nitrogen gasser (which applies the gaseous charge). With these two machines any one can do manual aerosol packaging to study problems such as viscosity, precipatation or separation, interaction with propellants, customer convenience, etc."

Eight other laboratory testing units are also available at monthly rentals ranging from $10 to $200. Should a prospective user want to test bottles instead of cans, a bottle crimper is available at $35. A propellant filler for pressurized liquids (fluorinated hydrocarbons) is available for $65, or the complete laboratory table with all ten units and refrigeration equip-

(*Continued on Page* 72)



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THE WORLD OVER
KLM
ROYAL DUTCH AIRLINES

You always know where your shipment is when you ship by KLM Air Cargo service, because KLM's world-wide system of communications can put a finger on it at any time. KLM teletypes your manifest to the point of destination. Reception of your shipment is arranged hours before its arrival. And from the time it's in hustling KLM hands until delivery, your cargo — bulky or fragile — gets velvet-glove treatment by experts. Service and skill without delay are KLM traditions. Your KLM air cargo is never out of expert hands.

KLM flies direct from New York City, Houston, Miami and Montreal to points the world over.

KLM Royal Dutch Airlines, 430 Park Avenue, New York 22, N. Y.

Non-Vacuum Crimper

A semi-automatic non-vacuum head aerosol crimping machine has been announced by John R. Nalbach Engineering Co., 6139 Ogden Ave., Chicago 50. The crimping head is operated by an air cylinder requiring a line pressure of 90 to 100 psi, and can be used to achieve speeds from 20 to 36 containers per minute.

The standard machine comes equipped with a hand operating valve, pressure regulator, oiler, air cleaner, pressure gauge and all necessary air lines. A welded steel stand, built to the purchaser's specifications, can be ordered at additional cost. The unit can be easily dismantled and can be sealed to permit wash-down with steam or hot water for food and pharmaceutical filling.

A descriptive bulletin is available by writing directly to the company.

•

New PFW Musk Odorant

A new musk odorant, called "Tonalid," was introduced by Polak's Frutal Works, Middletown, N. Y., last month. The new chemical is claimed to possess special advantages in diffusive power, blending qualities, and total compatibility.

"Tonalid" is said to be readily soluble in common perfumery raw materials, solvents and aerosol propellants. In covered patch tests, no irritation of the skin was observed.

A special booklet on the odorant, giving formulation, storage, and further physical and chemical information, is available by writing directly to the company at Middletown, N. Y.

•

New General Chem. Booklet

The General Chemical Division of Allied Chemical Corp., 40 Rector Street, New York 6, N. Y., last month issued a new 15-page aerosol information booklet. It describes the rapid growth of the aerosol market in various fields, gives approximate market growth figures, and lists most of the major custom fillers. Also included is a descripton of the complete range of "Genetron" aerosol propellants.

■

New British Product Line

W. B. Cartwright, Ltd., Rawdon, Leeds, England, recently introduced two new products in aerosol form to the British market. Included are "May Breezes" air freshener and "Insectox" fly spray.

Tinted Dip Tubing

Specially tinted "Aeroflex P" dip tubing for glass areosol containers, in which colored perfumes, colognes, etc. are to be packaged, has been announced by Anchor Plastics Co., Long Island City, N. Y. The crack-resistant tubing is designed to become almost "invisible" in the completed package. It is made to customer's specifications in any diameter and wall thickness. The tubing is supplied on disposable cardboard spools or precision cut to exact lengths ready for application.

Samples may be obtained by writing directly to the company at 36-36 36th Street, Long Island City 6.

•

Aerosol Insecticide Carrier

A new carrier for formulating aerosol insecticides has been developed by F. W. Berk & Co., Ltd., Berk House, Portman Square, London W.1. Called "Sepiolite", it is a pure hydrated magnesium silicate said to possess remarkable absorptive and adsorptive capacity.

New Odorless Deodorant

A new odorless deodorant for hospitals, mortuaries, veterinary hospitals, and nursing homes has been developed by the National Cylinder Gas Division of Chemetron Corp., Chicago. The new material, particularly applicable for aerosol formulation, is said to be effective in controlling residual odors in fish markets, food packing and processing plants, warehouses, etc.

Base substance of the deodorant is a high-molecular, long-chain quaternary ammonium compound—N-soya N-ethyl morpholineum ethosulfate in water solution. It works by fixation.

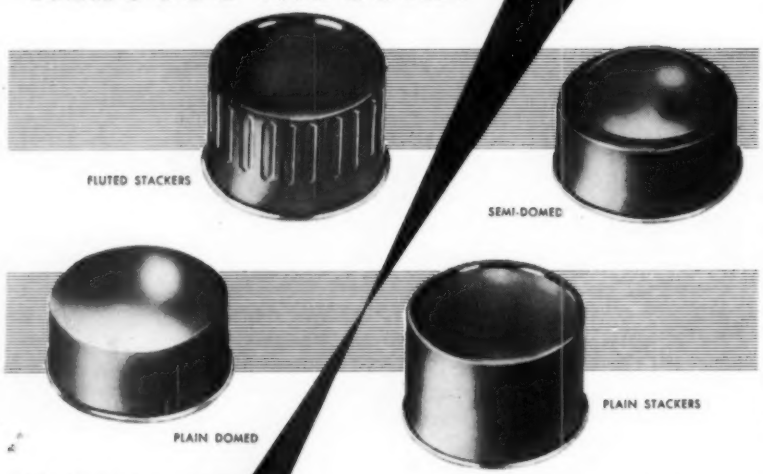
•

All Silicone Aerosol

A 16-ounce aerosol container claimed to contain 100% pure silicone has been introduced by Solvolene Lubricants, Ltd., Reginald Square, London, S.E. 8, England. Equipped with a newly-designed valve, the price of the product is reported to be at least 30% below the current price level for the material.

NOW...

SUPERIOR SERVICE
for the
AEROSOL INDUSTRY



We also manufacture tin plate Screw Caps from 18mm to 120mm.

PENN, known for finest service to the bottling industry for over 25 years, is now making tops for aerosol containers.

All of Penn's customers receive superior service and careful attention on every order. You are assured of top quality workmanship, the right price and immediate delivery.

Call or write for information.

Penn CORK & CLOSURES, INC.
1155 MANHATTAN AVE., BROOKLYN 22, N. Y.
EVergreen 9-4416

Aerosol Container Coder

An automatic packaging line imprinting attachment designed specifically for coding the bottom of aerosol cans, has been introduced by Adolph Gottscho, Inc., Hillside, N. J.

Called the "TB Aerosol Coder," the imprinter is said to operate at speeds up to 600 cans per minute and to accommodate cans of different sizes without use of change parts. Adjustments for both speed and can size can be made in a matter of minutes, according to the company.

The "TB Aerosol Coder" does not require cutting into an existing packaging line, and does not need any dead plates. Incorporating a simplified 2-roll fast-dry fluid inking system, the unit affords sharp, permanent imprints of one or more lines even on bottom surfaces recessed as much as ⅜". It is said to hold enough ink for round-the-clock operation. Installation can be made by the user in a few hours.

Complete details about the new unit may be obtained from the company at Hillside 5, N. J.

•

New Equipment Booklet

Machinery for a complete packaging line — materials handling equipment, conveyors, filling machines and net weighers — is described in a new illustrated brochure prepared by the manufacturer, Frazier & Son, 20 Industrial West, Allwood, Clifton, N. J.

Machinery described includes Whiz-Packer semi-automatic and fully automatic volumetric and rotary fillers; Whiz-Packer automatic and semi-automatic net weighers; "Whiz-Lifter" elevator feed conveyors; and "Whiz-Carrier" automatic product conveyors. Frazier equipment can be integrated into virtually any packag-

ing line. The company's variable speed drive permits synchronization of speeds and capacities to conform with equipment presently operating in the plant.

The six-page brochure illustrates typical units in each phase of the Frazier line, as well as working examples. Copies can be obtained by writing to the company.

•

Paint, Pharmaceutical Pellets

The possibility of loading aerosol paints and pharmaceuticals by means of a pellet similar to that currently used for aerosol snows is being investigated by research chemists at Baltic Chemical Co., Brooklyn, N. Y. This was revealed last month in an exclusive statement to *Aerosol Age* by Robert Levy, vice-president of Baltic.

Mr. Levy reported that the current studies are being conducted under U. S. patent number 2,764,454, and that the encapsulated active ingredients can be fed into the can either manually or automatically.

He revealed that, since 1953, Baltic has supplied more than 25 million white and colored snow sticks for use in aerosol cans. He said that this method of dropping a stick into the aerosol container at the start of the line and then adding solvent and propellant has eliminated a number of production headaches and has reduced costs substantially. With the stick, he added, both cold and pressure fill installations have found that maintenance of precision fills is considerably simplified, and boil over, dust in the plant's atmosphere, and similar problems are eliminated.

•

Valve Decrimper and Remover

A new aerosol valve decrimper and remover has been developed by Robins Engineering Co., 208 Maple Ave., North Haven, Conn. By use of it, the packager of aerosol products can reclaim the product and container efficiently and economically, Robins claims. By making it a part of an existing aerosol filling line, the unit can take defectively operating containers, remove the valve to allow

replacement, followed by recrimping and regassing.

The valve decrimper and remover is mounted on a 3-inch pipe stand and is operated by a 4-inch air cylinder with a 6-inch stroke (valves with dip tubes need a longer stroke). It can be installed in any aerosol line, since it requires only a 110 volt electrical connection and a 100 psi air supply. The company guarantees that the unit will not damage containers or contaminate their contents.

•

"Fluilanol" Information Brochure

A new product information brochure on "Fluilanol" liquid wool wax alcohols has been issued by Croda, Inc., New York. The material, described as being a mixture of liquid fatty alcohols from lanolin, is a reddish-amber colored highly viscous liquid of slight but not unpleasant odor.

It is said to offer particular advantages to the aerosol hair spray formulator in that it offers:

(1) Liquid consistency, pure liquid lanolin alcohols (cholesterol 6.5%).

(2) Complete solubility in anhydrous alcohol (SDA 40) in all proportions.

"The properties of 'Fluilanol' suggest it may function as a wetting agent in non-aqueous media, an 'oiliness' agent in lubricants, auxiliary scouring agent in textile oils, plasticizer, conditioning agent and emollient in cosmetics, etc.," the brochure says.

AEROFLEX® "P" DIP TUBES

- QUALITY CONTROLLED—Every shipment laboratory tested for crack resistance.
- Ideal for aerosols, atomizers, squeeze bottles and lotion pumps.
- Odorless, non-toxic, resistant to most filler and propellant chemicals, crack resistant through ANCHOR's exclusive formulation of polyethylene.
- Close tolerances maintained. Precision cut and stack packed tubes available.
- Nylon dip tubes extruded for special applications.
- ANCHOR also extrudes in all of the newest materials—polycarbonate, polypropylene, and rigid polyvinyl chloride . . . offering reliable service and on-time deliveries.

WRITE TODAY for "Extruded Plastics" brochure.

ANCHOR PLASTICS CO., INC.
36-36 36th Street
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RAvenswood 9-1494

USDA Insect-Repellent Study

Insect-repellent properties of 534 experimental chemical compounds are described in a report issued late last month by the U. S. Department of Agriculture.

Most of the compounds were synthesized by USDA's Agricultural Research Service and all were tested by the Agricultural Marketing Service for possible use in developing insect-resistant packages. Results of similar tests of other compounds will be published as the tests are completed.

Pyrethrum is the only chemical insect-repellent treatment approved by the Food and Drug Administration for food packaging materials, but it is expensive, effective for a shorter time than desired, and available only from foreign sources. The purpose of the tests now being made is to develop more economical, more effective, and longer-lasting treatments than pyrethrum.

A free copy of the report, "Laboratory Evaluation of Promising Compounds as Repellents to Flour Beetles, Tribolium Species," Marketing Research Report No. 324, may be obtained from the Office of Information, U. S. Department of Agriculture, Washington 25, D. C.

•

Aerosol Local Anaesthetic

Bengue & Co. Ltd., Wembley, England, has developed an anaesthetic oil in aerosol form which it reports can be used for midwifery, pediatrics, geriatrics, casualty—surgery, orthopaedics, radiology, dentistry, and chiropody. Called "Nestosyl," the oil has been incorporated in a rapidly evaporating propellant so that the anaesthetic properties are unimpaired. The vehicle is a vegetable oil.

•

Deodorized Aerosol Insecticide

S. C. Johnson & Son, Inc., Racine, Wisc., last month introduced a non-perfumed aerosol insecticide designed for use in food processing plants, hospitals, etc. It is called "Deodorized Raid," and employs pyrethrum as a principal ingredient.

from the EDITOR'S MAILBAG

To the Editor

In republishing my paper presented before the November meeting of the Canadian Manufacturers of Chemical Specialties Association, you neglected to include one highly pertinent footnote.

The portion of the article on "Silicones in Aerosol Products," starting at the paragraph on Page 40 of the April, 1959, issue of *Aerosol Age*, entitled "Silicone Waveset Hair Sprays," should have called attention to the fact that there are two U. S. patents which directly relate to the use of thermo-setting silicone resins in the setting of hair. They are U. S. 2,643,375 and 2,750,947 by Virgil A. Gant of Northwestern Research Corporation, 1535 North Dayton Street, Chicago 22, who advise that they are exclusively licensed to Aerosol Methods of Tylersport, Pennsylvania.

I trust that by publishing this letter you will call the attention of your U. S. readers to the above facts.

John A. Fisher
Merchandising Manager
DOW CORNING SILICONES LTD.
Toronto, Ontario

SIMPLICITY
is the essence of *good*
AEROSOL DESIGN

OEL AEROSOL VALVES are noted for simplicity of design and uniformity. They are used on many well-known spray and foam products. The same valve is used for both pressure and cold filling. The unique rubber diaphragm insures accurate sealing, freedom from clogging, and positive action.

PRINCIPAL ADVANTAGES ARE:

1. Faster filling in pressure loading.
2. Minimum propellent loss.
3. Uniform flow rates due to "above-the-valve" control.
4. Safer with inflammable materials.
5. Simplified inventory control due to universal valve.
6. Mechanical break-up dispensing at no premium.
7. Adaptable for products pressurized with nitrogen.

Let us send you samples for testing with your product. Just specify container size and dispensing fitments desired.

We are also manufacturers of precision equipment for pressure filling of aerosol containers.

OIL EQUIPMENT LABORATORIES, INC. 600 PEARL STREET ELIZABETH, NEW JERSEY

Arthur Colton Names Kinsley

Appointment of Lewis H. Kinsley as chief engineer — packaging machinery has been announced by Arthur Colton Co., Detroit, supplier of aerosol filling equipment and complete packaging installations.

Mr. Kinsley had been associated with the Hope Machine Co. of Philadelphia for 21 years, and was vice-president in charge of engineering and sales for Hope when that company was acquired by the Arthur Colton Co. in March of this year.

In his new position, he will direct the design and development of Colton, Colton-Hope and Colton-Alpha filling equipment for packaging processes in the aerosol, pharmaceutical, food products, paint, chemical, and dairy products industries.

•

CGA Studies ICC Rule Changes

A technical committee of the Compressed Gas Association, New York, is currently studying Tariff 9 of the Interstate Commerce Commission Regulations with a view toward possibly recommending additions or changes to its rules governing the shipment of aerosol packages. This committee, known as the Low Pressure Small Specialties Container Committee, is a regular standing comimttee of the CGA which has had much to do with the writing of the original ICC regulations governing aerosol packaging.

According to a CGA spokesman, the current study project is aimed at clarifying the many special exemptions included in Section 73:302 of Tariff 9, so that the prospective aerosol packager will be able to apply broad basic principles to interpreting ICC regulations regarding his product. The association committee, it was reported, will work closely with other industry groups in formulating its final recommendations to the ICC.

•

Plasti-Kote Names Sales Reps

The appointment of two additional sales representatives to its sales force has been announced by Plasti-Kote, Inc., major aerosol paint marketer. The new appointments are as follows:

Sykes-Waterman & Associates, 255 W. Mt. Pleasant Avenue, Philadelphia, Pa. as new representatives for the houseware trade only for the territory of Eastern Pennsylvania, Southern New Jersey, Maryland, Delaware, District of Columbia, and Virginia.

The One Co., 160 Fifth Avenue, New York City, as special representative to the houseware trade in the metropolitan New York area.

According to Elias Shapiro, vice president in charge of sales, Plasti-Kote is expanding its marketing program in the housewares field. The company now produces 2,400 different aerosol paint colors and products, including 350 colors to match major car paints from the years 1957-1959.

•

Perfume Factory in India

The new factory of the Industrial Perfumes (Private), Ltd. Bombay, a Tata Roure-Dupont France enterprise, was recently inaugurated at the Tata Oil Mills Compound, Sewri. The Company, which was registered in May 1957, is the result of collaboration between the Tata Oil Mills Co., Ltd. and Roure-Bertrand Fils & Justin Dupont, France.

Heyden Appoints 3 in Sales

The Heyden Chemical Division of Heyden Newport Chemical Corp., New York, producer of "Strobane" insecticides, last month announced the appointment of three new product sales managers. Dr. T. R. Aalto, former manager of technical service and assistant to the vice-president of research and development, was named product sales manager of fine chemicals.

E. L. Barkley was promoted from manager of technical service to product sales manager of synthetic resin chemicals. He is succeeded as technical service manager by J. R. Hutchins. T. H. Risch has been appointed product sales manager of organic intermediate chemicals.

•

Dorman to Rexall Post

Benjamin H. Dorman has been elected to the post of corporate secretary of the Rexall Drug and Chemical Co. He succeeds Harold E. Price, who will retire in the near future after 39 years of service with the company.

SNOW
from a
SOLID STICK

All the solids are formulated in this single stick which you simply drop into your container before adding your propellant and valve.

You get these important advantages:

- Amazingly simplified production process. No dust or boil-over. No mixing of powders.
- Gratifying savings in costs.
- Precision cold or pressure filling.
- Standard colors are WHITE, RED, and BLUE. For special colors, please send sample for matching.

For further information and samples, write to

BALTIC
CHEMICAL CO., INC.
115-119 Fourth Ave., Brooklyn 17, N. Y.
NEvins 8-6401

LICENSED UNDER PATENT 2,764,454

druk pak inc.

36, Merkur Strasse
Zurich, Switzerland

Supplying internationally for aerosols

- Laboratory Equipment
- Filling Machines (Cold and Pressure)
- Valves (Liquid and) Foam/Cans and Glass Bottles)
- Product Concentrates
- Laboratory Service
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Valve Clincher
Metal Cans and
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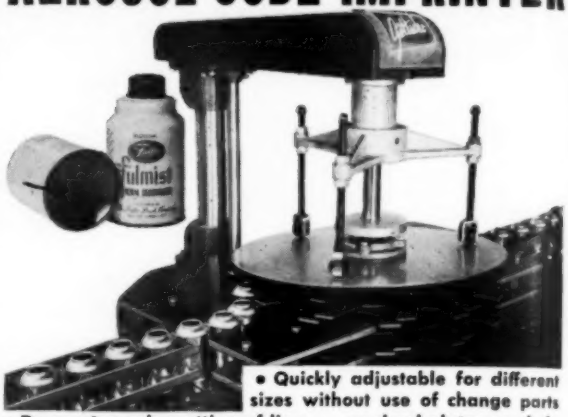
All Products manufactured to our own Designs, Formulations and Patents. Valves available from Germany and Italy—Filling Machines from Germany—Laboratory Equipment and Concentrates from Switzerland.

Publishers of "European Aerosol Survey," a quarterly periodical

Catalogues and Prices on Request.

New High-speed, Conveyor-line AEROSOL CODE IMPRINTER



- Quickly adjustable for different sizes without use of change parts
- Does not require cutting of line . . . no dead plates needed
- Automatic NO-JAM watchman included with machine
- Fits in minimum space—needs only 30"
- Imprints up to 600 cans per minute
- Gives excellent results on flat or recessed concave surfaces
- Simplified 2-roll fast-dry flexographic inking system holds enough ink for round-the-clock operation
- Install it yourself in a few hours

Write today for details on "TB AEROSOL CODER"

First and foremost in automatic production-line CODING, MARKING and IMPRINTING machines

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HILLSIDE 5, N. J.

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Translucent containers, with built-in pastel colors, high styling and visual product supply, increase consumer demand—Unbreakable, too!

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THE AEROSOL INDUSTRY

A complete listing of Federal, State, and local governmental agencies and their regulations governing aerosol shipment, packaging, and sale.

119 pages, $10.

Chemical Specialties Mfrs. Assn.
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Leghorn to Photostat Corp.

Kenneth M. Leghorn, former president of Sun Tube Corp., has been elected president of Photostat Corp. of Rochester, New York, a wholly-owned subsidiary of Itek Corp., Waltham, Mass.

Prior to joining Photostat Corp., Mr. Leghorn was the president of Bradley Container Corp. and previously of Sun Tube Corp., the largest manufacturer of collapsible metal tubes in this country. Both companies were later combined as the Bradley-Sun Division of American Can Co., and Mr. Leghorn was vice president and general manager of that Division prior to joining Photostat.

•

Loses Trademark Case

Max Factor Hollywood and London (Sales) Ltd., English subsidiary of Max Factor, Inc., Hollywood, recently lost an important trade mark infringement case against Callinan Giles & Co., Ltd., English aerosol marketer. Factor had contended that its "Top Secret" hair spray trade mark was violated by Callinan Giles' "Top Model", and that Callinan Giles' product bore a trade mark resembling "Top Secret" closely enough to be calculated to deceive or cause confusion.

In arguing the case, Factor said it believed it was the first firm to introduce a hair spray in an aerosol container, and that since the introduction of their product in 1954 sales had averaged about one-half million units per year. Max Factor acknowledged that the defendant's hair spray was being advertised as one which not only set the hair, but tinted it as well, but contended that both products were being similarly advertised.

Callinan Giles contended that Factor *could not* claim a monopoly on the word "Top", and pointed out that when ordering *their* product the customer had to specify color, whereas this was not necessary in ordering the Factor product, hence it should be apparent to the buyer that the two products were not the same.

Justice Vaisey of the Chancery Division of the London Court admitted there were similarities between the two preparations but expressed doubt whether they covered the same possible purchases or *were* actually competitive. He said he was not issuing a final decision on the dispute but did not think that the evidence presented warranted the granting of relief to the plaintiff (Factor).

"Top Secret", Factor's product is being marketed in an aluminum can, produced by Aluminium (Containers) Ltd., with a "QGT" valve by Specialty Valves, Ltd. "Top Model" is in a Metal Box tinplate can with a Precision valve.

•

Clairol Reshuffles Execs.

Clairol, Inc., New York, which recently became a wholly-owned subsidiary of Bristol-Myers, last month announced the election of Lawrence M. Gelb as chairman of the board of directors. Succeeding him as president will be Richard L. Gelb, executive vice-president. Bruce S. Gelb, former advertising manager, was named vice-president in charge of marketing.

Fromentin Goes to France

Andre Fromentin, head perfumer of Roure-Dupont, Inc., New York, recently returned to work in the research laboratories of Roure-Bertrand Fils & Justin Dupont, France. He spent 12 years in the U. S. to acquire a close working knowledge of the taste of the American consumer.

Francis Fabron, head perfumer of Roure-Bertrand Fils & Justin Dupont, Paris, and creator of many internationally known fragrances, has been in New York since February as consultant on special projects.

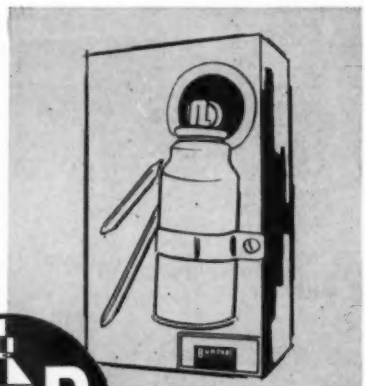
Editorial

(*From Page* 19)

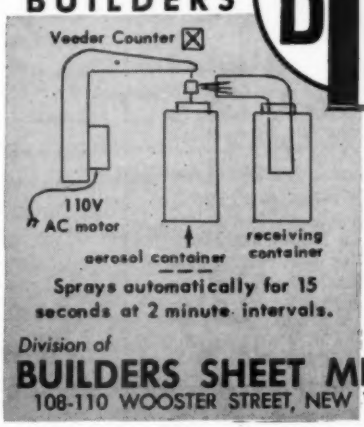
for essential work to be completed in a shorter period.

We don't profess to have all the answers. Certainly we see no reason for the Aerosol Industry to think of abandoning its highly rewarding re-

AEROSOL DISCHARGE RATE DETERMINATION APPARATUS



BUILDERS B P PRODUCTS



Sprays automatically for 15 seconds at 2 minute intervals.

You should know the discharge rate for each valve and actuator you are considering.

If the product is used up too quickly or too slowly due to an improper valve or actuator, the consumer may not re order.

Know how many times the actuator will be pushed to expel the contents.

Also use as an automatic spray unit for checking odorants, deodorizers, insecticides, etc.

Operate all tests with same temperature and number of actuations.

Weigh can before and after to give amount used by each valve or actuator tested.

Model with Electric Counter $56.50

Division of

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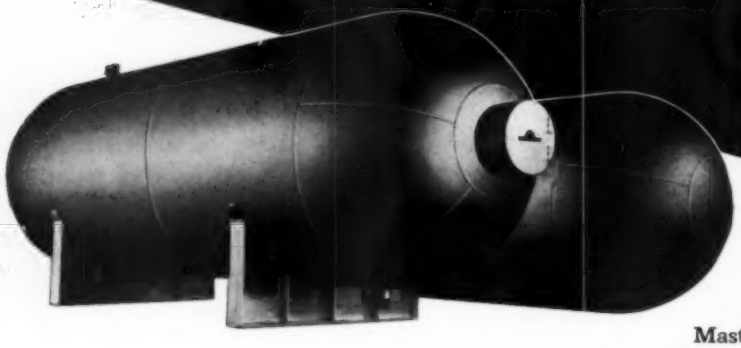

Engineered to fit your requirements

FROM 150 GALLONS TO 70,000 GALLONS

Master Tank & Welding, one of the oldest fabricators of ASME pressure vessels for the petroleum and the butane-propane industries, is now producing propellant pressure vessels for the aerosol industry. Both Master plants at Dallas, Texas, and Quincy, Illinois, are equipped with the most modern steel fabricating equipment to assure you of the utmost in safety and quality. This modern equipment also means competitive prices. Send us your specifications for quotation and delivery. No obligation, of course.

MASTER TANK & WELDING

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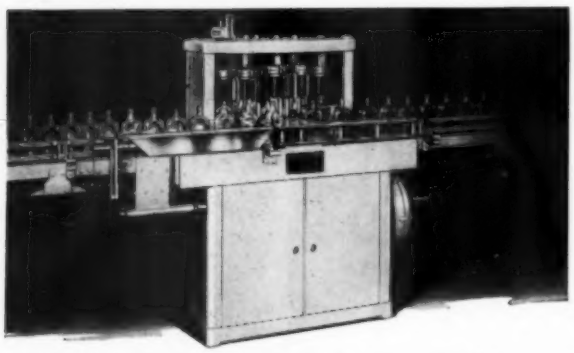

Safeguard the Operation of Aerosol Valves

SANITAIR
AUTOMATIC
AIR CLEANER
Used by the leaders in aerosol packaging

AIR CLEANING CONTAINERS is your most worthwhile consideration. *Positive* removal of any speck of foreign matter is vital to the operation of each valve. Air cleaning also safeguards the quality of your product.

The Sanitair Automatic Air Cleaner assures positive cleaning action at all speeds. Containers are completely inverted *before, during* and *after* the air tubes enter. Naturally, no foreign matter can remain in an open inverted container after it has been blasted with compressed air. Write today for the "Sanitair Bulletin."

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4007 N. Rockwell St., Chicago 18, Illinois
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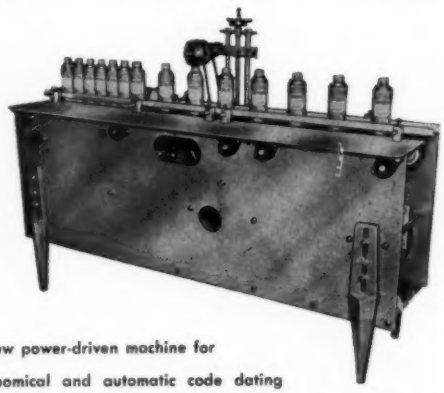
Aerosol Container

CODE DATING MACHINE



a new power-driven machine for economical and automatic code dating the concave bottoms of pressurized cans or flat bottoms of other round containers with work table area. Will mark top, bottom, or both at the same time.

Send details on your specific marking problems. Literature available on all types of applications.

Kiwi® Coders Corporation

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lationship with CSMA which has done so much to advance the best interests of the aerosol industry. But we do think that the top brass in CSMA should give a lot of thought to what changes it may be desirable to consider for the future as the aerosol industry expands into more and more new fields, and gets farther and farther away from its initial starting point as just a more convenient way of dispensing household insecticide.

Perhaps it would make sense if all CSMA divisions met together at an annual meeting,—but separately at a second mid-year session, with divisions like Aerosol and Insecticide, that have so much in common, meeting in the same city at adjoining hotels. Perhaps the Aerosol Division could take on a double status,—meeting once a year as it now does as a division of CSMA, then a second session as an aerosol association which would attract wider membership and support from non-chemical groups.

The new production clinics, one to be held in New York and one in Chicago this fall, seem certainly to be a step in the right direction. It should be possible to attract to these sessions a much wider cross section of those who are interested in keeping in touch with what is going on in the aerosol industry. Every effort should be made to stimulate attendance by representatives of the pharmaceutical industry, the cosmetic industry and the food industry who are the new faces among aerosol marketers.

The idea of an Aerosol Exhibit, which has been discussed at length, deserves further consideration. Such an exhibit conducted in connection with a future meeting could help build attendance on the part of those just finding out about aerosols and perhaps considering adding an aerosol line. If tried, the effort should be confined strictly to a workshop type operation, with a minimum expenditure and no elaborate booths and presentations.

Changes are needed, in the opinion of many who have the best interests of the aerosol industry directly in mind. But it seems to us that it should be possible to work these changes out within the framework of the CSMA. The by-laws of this organization, which has done so much to advance the aerosol industry, are extremely flexible. If those who are anxious to see a changed program can agree on what they want, all they need do is push their program to adoption and unite behind it to guarantee its success.★

•

Pettit to W-L Sales Post

Clifford Pettit, a field sales manager, has been promoted to the new position of general sales manager of the Hudnut-DuBarry Division of Warner-Lambert Pharmaceutical Co., Morris Plains, N. J.

Aerosols in Review

(*From Page* 49)

firm's insect spray. This Franklin Park, Ill. firm will switch to new cans this month. Lien's bug killer had been packaged in an unimpressive blue-and-white can, decorated only with detailed, hard-to-read instructions.

"In a market survey the old can scored 38 for visibility and 31 for readability (100 is equivalent to perfection); the new container scored in the high 80's on both counts. Lien's market surveys lead company officials to believe the new can may double sales, while it would only take about a 5% increase to offset added costs, Edward L. Weibe, sales promotion manager, says. Lien's spray in the new packages will retail for the same prices as before, $1.98 for a 16-ounce can and 98 cents for a six ounce size.

"Companies run a serious risk in changing the appearance of a package that contains an old, successful product: Customers may not recognize the product in its new dress. In efforts to overcome this problem, manufacturers will accompany any drastic package change wth massive advertising, which naturally adds to the cost of the changeover."

•

PRACTICAL formulation of aerosol shampoos and hair creams is becoming possible with development of new propellant and emulsion sys-

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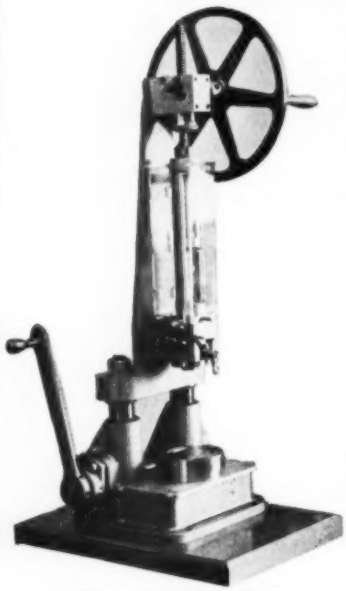

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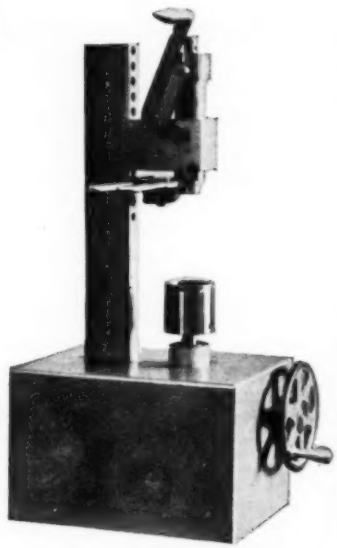

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tems, A. Herzka, of the Metal Box Co., Ltd., writes in the April issue of *The Retail Chemist,* trade publication printed in London. He points out that compressed gases, particularly nitrogen and argon, do not induce increased corrosion, as do certain of the fluorinated hydrocarbons.

"With liquefied propellants, attention has chiefly centered on the synthetic detergents of the lauryl sulphate type. Both the sodium and triethanolamine salts have been used, at any rate experimentally. Experience to date has shown sodium lauryl sulphate to be satisfactory in internally plain aluminum containers, even when using a propellant mixture containing trichlorofluoromethane. For these tests, Empicol L.Z.V. paste and Cycloryl pastes 30C50E and 33 were used. On the other hand, corrosion has always been experienced with formulations based on triethanolamine lauryl sulphate, and in this respect our findings appear to be completely opposite to those reported from the U. S.

"Because of their superior cleansing actions, perhaps too much attention has been given to the synthetic detergents when considering pressurized shampoos. A combination of the triethanolamine soaps of stearic, myristic and oleic acids has been advocated with a suggested 50% of triethanolamine lauryl sulphate. For a cream type of shampoo, potassium and triethanolamine stearate, together with 0.5—1% of benzyl alcohol are recommended; the latter to ensure the correct viscosity of the product."

As typical basic formulations for shampoo packages, Mr. Herzka suggests the following (plus three others):

I	Per cent.
Triethanolamine lauryl sulphate..	45.0
Distilled water	45.0
Dichlorodifluoromethane/dichlorotetrafluoroethane (40/60)	10.0
Perfume	q.s.

II	Per cent.
Stepan WAT aerated grade.....	40.00
LDA	10.00
Oleyl alcohol	1.00
Perfume oil	0.25
Water	48.75
Charge:	
Above concentrate	90.00
Dichlorodifluoromethane/dichlorotetrafluoroethane (57/43)	10.00

Test Market Hand Lotion

Andrew Jergens, New York, has been market testing three different nitrogen-powered aerosol hand lotions in three areas of the country. One of the three is designed, from a label standpoint, for kitchen use, and another with black, white and gold for use in the bathroom or dressing room. The eight-ounce containers will retail for 69 cents each.

Odell to Publicity Post

(*From Page* 25)

marily to consumers, but will also include a communications program in the retail trade to keep management of supermarkets, drug, hardware, and department stores up to date on effective sales promotion techniques for aerosol products.

The aerosol industry publicity program is supported by marketers of aerosol packaged products, loaders, and manufacturers of containers, valves and propellants. Current annual aerosol product sales are running close to the $500 million mark.

•

Florasynth Names Payne

Arch Payne has been elected Assistant vice-president of Florasynth Laboratories, Inc., New York, manufacturers of aromatics and flavors for the food, drug and cosmetic industries.

A veteran of over 30 years in this field, he has been general sales manager of Florasynth Laboratories since 1947.

Propellant Blending

(*From Page* 23)

liquid phase will be light in the low boiler."

3. Due to variables that normally operate during an actual production run, "there will usually be an underage or overage, creating the need for an additional batch or disposal of a surplus."

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4. Because of the high ratio of weight of tank to weight of its contents, "any weigh tank system is inherently inaccurate."

Mr. Husted said he doubted whether the method of displacement proportioning pumps is economically feasible for propellant blending except for concerns using the pressure method of filling, where "advantage could be taken of the economies resulting from use of the proportioning pumps to discharge directly into the aerosol containers on the pressure filling line itself." He said that operation of a heat exchanger on the suction side of the pumps is essential to keep the low boiler in liquid phase.

Use of a displacement meter for continuous blending may not be sufficiently accurate, the Union Carbide speaker said, but such equipment is successfully used to blend components in batches. When operated by the batch method, he said, the advantages and disadvantages of the method are "essentially the same" as those of the weigh tank method.

The necessity "to maintain temperature fairly constant" was pointed out by Mr. Husted in his discussion of the method that employs radiation equipment to measure density of the mixtures.

"With this type of equipment," he explained, "a chamber three to six inches in diameter is inserted in the line at a point where the propellants are well mixed. Radioactive energy is passed through the chamber to measure the density. This energy is converted to electrical energy, which, in turn, activates a control valve in one of the propellant lines, modifying the flow in the controlled line to compensate for changes in the mixture composition."

Noting that the continuous proportioning system requires a "substantial" capital investment, Mr. Husted said this method "unquestionably allows great ease of operation and maximum flexibility." He defined such a system in general as one in which "the flow through one meter drives gearing, which synchronizes it in some fixed proportion to the flow through another meter" in such a way that, should the rate of flow through one meter change, "there must be a proportional change in flow through the second meter."

He compared two types of continuous proportioning equipment now available. In one type, he pointed out, the meter "directly activates the control valves," precluding the need for "an independent source of instrument air." But the second type, he noted, while it does require an instrument air supply, is designed for variable rate of operation and can be geared to the rate of operation of the filling line even if the latter is variable.

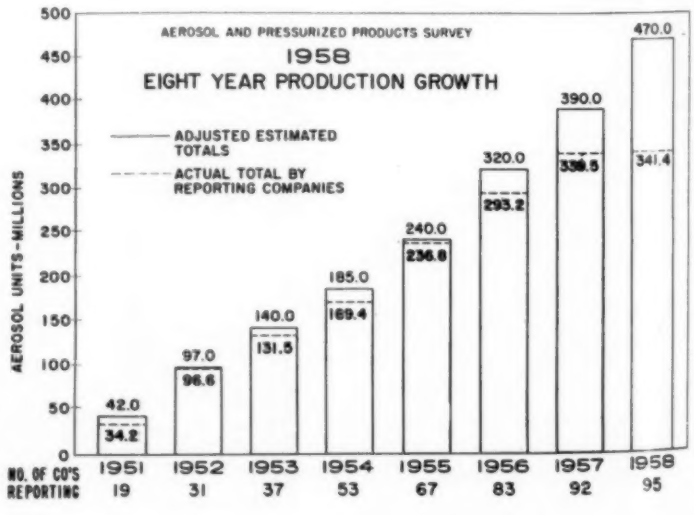
"The inherent advantage in tying the blender to the filling line," he explained, "stems from the fact that any of these blending systems only approximates the exact right blend at start-up, and they all tend to hunt just a trifle in the early stages of operation. Therefore, if you use a fixed flow rate, requiring frequent stopping and starting to adjust to different rates, the unit will tend to fluctuate as it does at start-up. But a unit designed for variable rate of flow will reach and maintain equilibrium."★

Aerosol Product Survey

(*From Page 27*)

million units were reported in the survey, yet bottle and container sales indicate that at least 30 million units were actually produced. On pressure packed dentifrices only about 13 million show in the survey, as against the generally accepted industry figure of 30 million.

Survey reports indicate that a total of 472,807,614 aerosol containers were produced in 1958. This total, again, is incomplete, for it does not include the very substantial number of coated and uncoated bottles which were used by the aerosol industry. Valve manufacturers reported that 547,803,389 valves were produced and sold in 1958. This is approximately 75 million in excess of the containers reported manufactured. The answer here undoubtedly is that



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some of the valves went to the export market, some went into use in non-food aerosols (not included in the survey) and some went into glass aerosols. Also, since valves are less bulky, it is quite possible that a higher percentage of the valve output might have gone into stock rather than into immediate production. As the industry's overall volume increases, working inventory of such a component part must increase proportionately.

Two new categories were set up in this year's survey: Dental Cream and Veterinarian and Pet Products. Further divisional breakdowns may be set up for future surveys. The committee has given serious consideration to the idea of including food products in future surveys, perhaps setting up a separate survey for food aerosols rather than including them in the present survey. It is currently estimated that the volume of food aerosols is somewhere between 100 and 150 million, so the total volume of all pressure packed products produced and sold in 1958 (food and non-food) probably runs as high as 570 to 620 million.

In reviewing this year's reported totals as compared with figures of previous surveys the committee singled out a number of points for special note:

"In undisputed first place this year, as in the past two years, is Hair Sprays with an output well in excess of 100,000,000 units. The reported figure was 92,593,592 units.

"Room Deodorants shows a reported figure of 49,780,185 which indicates a continued growth over the 1957 reported figure of 41,988,888.

"In the opinion of your committee, Insect Sprays, Room Deodorants, Coatings and Shaving Lather, all were produced in excess of 60 million units in 1958. Each of these categories show a continued growth. The reported figures being:

Insect Sprays ...	42,299,850
Coatings	30,123,351
Shaving Lather ..	45,313,616

"Dental Cream for the first time as a separate product type shows 12,905,832, however, the figure reported is substantially less than actually produced. It does represent a fine acceptance as a new entry into the field.

"Veterinarian and Pet Products, the other new category to the questionnaire, showed a reported figure of 3,002,169.

"It is interesting to note that the smaller aerosol container continues to be more popular, that is, the 6 ounce or less size. Also, the 16-ounce but over 12 container, has shown an increase over the previous year's reported figure of 59,273,092; the figure for 1958 being 68,561,714."

Chairman of the Aerosol Products Survey Committee is Fred Lodes of Lodes Aerosol Consultants. Other members of the committee are: Douglas Atlas, G. Barr & Co.; David Bagenstose, Thomasson of Pa., Inc.; R. A. Crane, E. I. duPont de Nemours & Co.; F. R. Hormann, A. Schrader's Son; E. E. Husted, Union Carbide Chemicals Co.; A. R. Marks, Wheaton Plastics Co.; Seth R. Schneible, Crown Cork & Seal Co., Inc.; and W. B. Sherry, General Chemical Division.★

Lab Equipment Rental

(*from Page* 57)

ment may also be rented. This complete laboratory setup was shown for the first time at the National Packaging Exposition in Chicago, April 13, 1959.

Rental fees may at any time be applied to the purchase price, thus providing a convenient way for acquiring basic equipment on a monthly expense basis. Should the prospective user later install a complete automatic packaging line, the laboratory equipment would still be needed for experimental work, for quality control and for test runs.★

IFT Aerosol Symposium

(*From Page* 46)

packaged foods, prepared by G. L. Hays, J. D. Burroughs, and R. C. Warner, all of the American Can Co., Maywood, Ill., and Barrington, Ill., was presented by Mr. Hays. He reported that the growth of several food spoilage microorganisms was inhibited when culture media were pres-

surized to 90 to 105 psi with carbon dioxide. Other propellants tested were nitrogen and nitrous oxide. Nitrogen did *not* inhibit the growth of any of the test organisms, while nitrous oxide exerted a slight inhibitory action on some of the fungi tested.

The only fungi to grow in the carbon dioxide tests were the lactic acid bacteria and a yeast isolated from beer. The inhibitory action of carbon dioxide was found to be independent of the lowering of the pH of the media.

In order to prevent mold growth on products pressurized with nitrogen, Mr. Hays said, the products should be gassed while hot. In conclusion, he said, unless the product is to be refrigerated, pressurized foods act the same as regular foods in regard to spoilage.

A further report on the microbiological aspects of pressure packaged foods was presented by E. Wheaton and P. W. Hardy, American Can Co., Barrington, Ill. They concerned themselves specifically with the influence of packaging methods on the growth of bacteria. The paper was read by Mr. Hardy.

For this report, two types of plastic valves, foam and dip-tube, were studied for their effect on spoilage of the packaged foods. Plastic valves, Mr. Hardy said, were believed to be responsible for spoilage because of the difficulty of subjecting them to enough heat so that they will be sterile and still keep their shape.

For the tests, the valve stems on almost 200 cans were inoculated with mold suspension. Twenty-three of the cans, which were both hot and cold filled and contained such foods as apple sauce, jelly, and coffee, were spoiled in the tests. Of 60 uninoculated control cans, only one can of jelly had some mold. Mr. Hardy said that a significantly lower spoilage rate occurs among cans that are gassed while hot but that good sanitation is the main factor in controlling bacteria.★

•

Smith to Pyrethrum Post

H. Alvin Smith has been named U. S. advisor for sales of pyrethrum flowers and extract by the Kenya Pyrethrum Board. The new appointment will not affect previously announced pyrethrum sales channels between growers and processors, it was stated, since Mr. Smith's function will be purely a consultative one.

N_2O and "Freon C318"

(*From Page 22*)

These aerosol food products have been made by several laboratory formulations, using straight nitrous oxide, straight "Freon-C318" or an appropriate mixture as propellant. Just as in the nonfood aerosol product line, there is an optimum propellant mixture for each formulation of the product. In some cases, a mixture of nitrous oxide and "Freon-C318" is better than either propellant alone. Where outstanding stability and firm consistency are required for a foam, straight "Freon-C318" give the best results.

It is still premature to discuss costs of aerosol food products containing "Freon-C318" propellant. Many details of product formulation and production remain to be worked out. Commercial availability of "Freon-C318" and of its mixtures with nitrous oxide is still several months away. But there are some promising indications.

A regular 211 x 413 aerosol can, which holds about 7 ounces of conventional whipped cream, can hold about 13 ounces of cream with straight "Freon-C318." The unit cost per container is higher with "Freon-C318" — about 40 cents versus 23 cents for the nitrous oxide package. But the higher net weight means a saving of packaging costs per pound of food product, which should be important to the consumer if it is explained to him. For typical formulations, the costs per pound of cream are about 50 cents for the package with "Freon-C318," and about 52 cents for the nitrous oxide package. This means that a better product can be made at less cost to the consumer by using "Freon-C318."

Using a mixture of "Freon-C318" and nitrous oxide would add about half a cent to the cost of a 7-ounce

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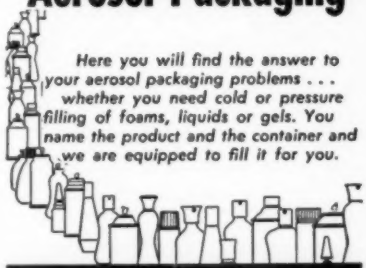

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package. As shown above, markedly better quality whipped cream is produced by the mixture versus straight nitrous oxide. The cost can be reduced, with little or no drop in quality, by reducing the butterfat content of the cream used with the mixed propellant.

Aerosol whipped cream sales have climbed from nothing in 1948 to about $100 million last year. Total food aerosol sales will climb rapidly in the next few years as this new propellant mixture is used to develop and promote more aerosol food products of improved quality.★

Gas Chromatography

(*From Page* 36)

sample preparation.

B—Room Deodorant 2

A series of production samples containing only propellants 11 and 12 were run—Table 1, C.

C—Insect Spray 1

Production samples of an aerosol containing propellant 11, methylene chloride and ethanol were run—Table 1, D.

D—Insect Spray 2

Results on laboratory prepared samples containing propellants 11, 12 and methylene chloride are shown in Table 1, E.

E—Hair Sprays

Table 1, F. shows results obtained on two aerosol hair sprays by the method described. These were run in duplicate.

F—Competitive Products

This method is valuable in the analysis of competitive products. Table 1, G illustrates the analysis of an aerosol hair groom.

Discussion of Results

A method has been presented for the determination of the volatile components of aerosol products. Careful adherence to the techniques described gives results within 2% of the theoretical values and possibly closer than that, it being difficult to prepare samples of exact known composition. The accuracy of the method is in keeping with manufacturing tolerances. Control of production may be achieved

TABLE I

A—Room Deodorant 1A

	Found	Theory
Freon® 11	15	14
Freon® 12	40	41
Methylene Chloride	20	20

B—Room Deodorant 1B

	Lab		Factory		Theory
	1	2	1	2	
Freon® 11	14	14	18	19	14
Freon® 12	42	39	34	34	41
Methylene Chloride	19	19	17	18	20

C—Room Deodorant 2

	Sample 1	2	3	4	Theory
Freon® 11	34	34	32	32	34
Freon® 12	43	43	41	40	41

D—Insect Spray 1

	1	2	3	Theory
Freon® 11	21	22	19	20
Methylene Chloride	22	22	21	20
Ethanol	15	16	15	16

E—Insect Spray 2

	1	2	Theory
Freon® 11	37	36	36
Freon® 12	38	41	40
Methylene Chloride	20	20	20

F—Hair Sprays

	Hair Spray 1		Hair Spray 2	
	Found	Theory	Found	Theory
Freon® 11	46, 44	46	42, 42	42
Freon® 12	26, 25	25	24, 24	23
Ethanol	27, 27	27	33, 33	33

G—Men's Hair Groom Spray

Freon® 11	21
Freon® 12	36
Alcohol	14
Solids	28
	99

as an analysis requires less than 1 hour.

The method also serves as a qualitative check on composition. Most propellants, halogenated hydrocarbon or hydrocarbon, are separated under operating conditions. Non-volatile diluents are not detected.

Small quantities of non-volatile solids are injected into the instrument. Periodic cleaning of the injection block eliminates residues of polyvinyl pyrrolidone, mineral spirits, lanolin and insecticides.

The basic principle of this method may easily be extended to the analysis of other aerosol solutions such as lacquers, shoe polishes, dog sprays, sun tan lotions and medical sprays.★

References

1—Percival, W. C., *J. Anal. Chem.* 29, 20 (1957).

2—Root, M. J. and Maury, M. J., *P. Soc. of Cosmetic Chemists* 8, 92 (1957).

SCC Meeting

(*From Page* 29)

Engineering Center, Natick, Mass. He reported that these two methods have proven particularly useful in the identification of volatile components isolated from coffee, fruits, vegetables, and meat. He described how the methods used to identify the chemical components of food aromas may be extended to permit characterization of the chemicals responsible for the odors

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arising from such other sources as flowers, plants, air pollutants, and even perfumes and certain product odors in the cosmetic field.

Dr. R. D. Charles, of the Atlas Powder Co., Wilmington, pointed out that cosmetic chemists may be misled by their studies of organism growth in preservative-containing cosmetics. The actual ingredients in the final package, he said, often tend to reinforce the preservative, and therefore any tests of the preservative and one or more of the major product components cannot be the final conclusive means of determining the effectiveness of that preservative.

As a practical approach to the problem, he declared, the product development laboratory of Atlas Powder obtained a series of typical non-ionic cosmetic emulsions from four nationally known cosmetic houses. These were prepared with the preservatives normally used and a second series prepared with sorbic acid. Then all except one control specimen were inoculated with a bacterium and eight molds, and were observed for evidences of organism growth after a three-month storage period. The tests showed that many of the commonly used preservatives are effective in non-ionic cosmetics. Where failure was noted, as well as in cases where the usual preservatives worked well, sorbic acid afforded good protection.★

Product Patents

(*From Page* 32)

is mixed with water-free ethyl alcohol and also with a suitable "Freon", which is used as a propellant. The patent is limited to a mixture which is substantially free from water. The question which a Court must decide, depending on the proof, is whether the mixture of a water-free solution of PVP with "Freon", involved merely ordinary skill. The "Freons" were patented as far back as 1933 in U. S. Patent No. 1,926,396. This patent disclosed "Freon-12" and stated that it could be used as a propellant.

However, although it must be conceded that PVP was old in 1952, and that the use of "Freon" as a propellant was old in 1952, this does not necessarily mean that the La Maur patent is void.

The main controversy in the industry is whether the La Maur patent is broad enough to cover one or more copolymers of PVP and other vinyl compounds, such as a copolymer of vinyl pyrrolidone and vinyl acetate. This is also an issue which depends on the proof.

The general rule as to infringement is that if the PVP is merely mixed with a small percentage of some other material, then the mixture is an infringement. However, a copolymer is different in chemical structure from the polymer. Also, it is reasonable to assume that some copolymers would *not* make good hair sprays when dissolved in alcohol and mixed with "Freon". This can be tested by experiment.

If such be the fact, the La Maur patent cannot generally cover all copolymers. As one leading decision stated, the patentee cannot shoot to hit if the target is a deer and shoot to miss if the target is a cow. A patent cannot broadly claim a general class of substances for a particular purpose, unless every member of that class is suitable.

So far, I have discussed the protection of an old material in a claim for a product which uses the old material in a new field.

There is another aspect which must be considered. The Patent Act of 1952, which is now in effect, states in Section 100 that a patentable process includes a new use of an old material. Thus, on March 10, 1959, the Patent Office granted U. S. Patent No. 2,876,181, which was assigned to Permanent Hair Waving Corp. This patent has claims for a method of permanently waving the hair by applying specified solutions.★

IAA Zurich Meeting

(*From Page* 42)

experiencing a true aerosol boom in 1959. Schedules are full with component deliveries lagging. New products from new loaders continue to make a steady appearance and end prices are down with the increased volume. The trend to private or captive loading as against contract loading is still evident with many of the larger companies, including some in England, putting in their own loading equipment. The year 1959 will, it seems, break all records to date.

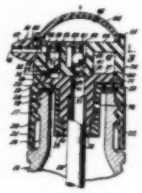
All attention is now focused on the June 26 meeting in Paris which, from all preliminary reports, will be attended by from 300 to 400 aerosol industry representatives from every European country (as well as many from overseas). It is to be hoped that USA companies interested in the European development will not miss this opportunity to become acquainted with it first-hand. The European industry is looking for co-operative assistance and now has the right trade association organization to contribute its share. We hope the CSMA will acknowledge this movement, sending its representatives for at least a look-see, if not outright participation.★

New Aerosol Patents

Listed below is a brief review of recent patents pertinent to the aerosol and related industries.

Complete copies of these patents may be obtained by writing to the Commissioner of Patents, U. S. Patent Office, Washington 25, D. C., and remitting 50c for each copy desired. For orders received outside of the United States the cost will be $1.00 per copy.

2,879,924. DISPENSING DEVICE. Issued March 31 to "D" Flavius Bacheller, Glendale, Calif., assignor of one-half to Dan Campbell, Glendale, Calif.



A closure for dispensing liquid from a container comprising a body portion adapted to cover an opening in the container, said body portion having an upper surface and a lower surface facing toward the interior of the container, a hollow dome of resilient material on said top surface providing a chamber between said upper surface and the inside wall of said dome, a first depression formed in said body portion and extending downwardly from said upper surface and opening into said chamber, a suction port extending from the lower end of said depression and opening in the lower surface.

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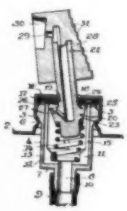
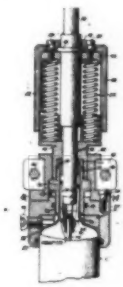
2,881,808. AEROSOL VALVE. Issued April 14 to Wilfreid H. St. Germain, Batavia, Ill., assignor to Aerosol Research Co., Chicago.



An aerosol valve comprising a solid, one-piece valve body, a valve stem of uniform diameter integral with said valve body, said valve stem projecting from said valve body and provided with a longitudinal bore, extending downwardly into said valve body and terminating below the upper end of said valve body, the upper end of said valve body projecting laterally beyond the outer circumference of said valve stem at right angles to said stem, said laterally projecting upper end being provided with an annular groove, an annular rim portion of said valve body defining the outer edge of said annular groove, an annular shoulder portion of said valve body adjacent the outer surface of said valve stem defining the inner edge of said annular groove, said rim and shoulder portions being adapted to be seated in sealing engagement with a sealing gasket, and an internal orifice extending through said valve body, one end of said orifice being positioned in said annular groove and the other end of said orifice communicating with the longitudinal bore in said valve stem below the upper end of said valve body.

•

2,881,576. METHOD AND DEVICE FOR PRESSURE FILLING AEROSOL DISPENSERS. Issued April 14 to Richard B. Nebinger, St. Louis, assignor to Knapp-Monarch Co., St. Louis.



A machine for filling crown type cans with fluids that are highly volatile at normal room temperatures comprising a stationary head defining a can-receiving opening in one side thereof, a movable can-receiving support positioned to the one side of said head opposite the can-receiving opening, means for moving said can-receiving support toward said can-receiving opening to present a can therein for filling thereat and to move the filled can away from said head to permit removal thereof from said can-receiving support, seal means in said head for sealing a can relative thereto when the can is positioned in said can-receiving opening, said stationary head carrying a sleeve slidable therein and sealed relative thereto and extending therefrom to the side opposite said one side, a segmented crimping collet carried by said sleeve and being magnetized to provide means assisting to support a crown cap thereon, said cap when carried on said head being normally in spaced relation from a can that is operatively received in the can-receiving opening of said head, a collet actuating plunger slidable in said sleeve and sealed relative thereto, said plunger being operatively connected with said sleeve through springs located outwardly of said stationary head which permit of simultaneous movement of said plunger and sleeve to a position whereat the crown cap engages a can and thereafter permits of additional movement of the plunger relative to the sleeve to effect expanding the collet for crimping the crown cap to the can, said head with a can operatively positioned in the can-receiving opening cooperating with said sleeve and plunger carried by said head to define a pressure chamber for receiving therein highly volatile fluid under pressure, means for effecting movement of the plunger and sleeve to effect moving the crown cap into closing re-

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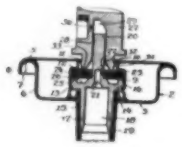
lation with the can and to effect crimping the crown cap to the can, means for introducing fluid under pressure through said stationary head into said pressure chamber and thereby into the can while the crown cap is spaced therefrom.

•

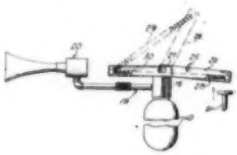
2,883,089. AEROSOL VALVE ASSEMBLY. Issued April 21 to Joseph L. Kiraly, Park Forest, Ill., assignor to Aerosol Research Co., Chicago.



In an aerosol valve assembly, a mounting cup and a valve secured together in fixed relationship, said valve having a valve stem projecting above said cup, a metering orifice, the peripheral edge portion of said gas around said stem, the inner edge of said gasket normally sealing said metering orifice, the peripheral edge portion of said gasket being securely held in fixed relationship to said cup and valve, and a spray tip slidably mounted on said stem and secured against separation from said assembly; said spray tip engaging said gasket and operable, under depressing finger pressure, to displace the inner edge of said gasket from sealing engagement with said metering orifice.

•

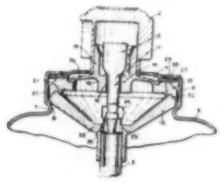
2,882,853. MECHANISM FOR OPERATING A SIGNALLING DEVICE. Issued April 21 to Charles E. Graham Reeves, Summit, N. J. assignor to Falcon Alarm Co.



In a mechanism for automatically operating a self-powered signaling device of the type employing fluid under pressure for production of an audible sound and which includes a cylinder containing a supply of the fluid under pressure, said cylinder having a discharge outlet and a rupturable member normally closing said outlet, the improvement which comprises a fitting connected to the discharge outlet of the cylinder, said fitting having a bore extending therethrough and a discharge passageway communicating with said bore at a point intermediate its length, said bore having an upper end and a lower end with said lower end being in communication with the discharge outlet in the cylinder; a piercing pin mounted in the bore in the fitting, with one end thereof in opposing relation to the rupturable member in the discharge outlet of the cylinder and the other end thereof extending beyond the upper end of the bore, said pin being movable relative to the fitting toward the rupturable member and having a portion of reduced section formed adjacent the end thereof opposing the rupturable member with a shank portion of smaller diameter than the bore extending from said reduced section to a point beyond the discharge passageway; spring-actuated means carried by the fitting and engaging with the end of the piercing pin extending beyond the upper end of the bore, said spring-actuated means forcibly moving the piercing pin toward and through the rupturable member; and means for stopping said movement of the pin at a point where the reduced section of the pin coincides with an aperture formed in the rupturable member by the pin.

•

2,883,090. ATOMIZING APPARATUS. Issued April 21 to Roger Remane, Courtonle-Bas, France, assignor to Rene Maurice Achille Joseph Pollet, Paris, France.



In a metallic atomizing container for the projection of aerosol products, dissolved and suspended in a liquefied gas, an annular bulge inside the neck, a stop valve located in said neck and including a piece in the shape of a conical upwardly wide-mouthed cup, made of a rigid plastic, said cup having an aperture in its bottom, a tube extending inside the container fixed in said aperture, the edge of the lower face of said cup resting upon said inner annular bulge of the neck, a second piece constituted by a membrane made of a flexible plastic provided on its lower face, near its edge, with sharp edged circular ribs forming tightening joints and bearing on the edge of the rigid cup and the inner surface of the neck, said membrane having a central aperture forming a seat on its upper side, a valve member cooperating with this seat and provided with a stem extending through the aperture in the seat and fixed by its lower end on the rigid cup, a piece in the shape of a hood fixed on the upper face of the membrane round the valve seat, provided with an atomizing port and means to clamp in a tight way the valve body against the inner bulge of the neck, said means including the inwardly bent upper edge of the neck of the metallic container against the annular edge of the upper face of said flexible membrane.

•

2,883,286. CHOCOLATE FOAM TOPPING AND METHOD. Issued April 21 to Jay C. Musser, Mount Joy, Pa., assignor to Klein Chocolate Co., Elizabethtown, Pa.

The method of producing a chocolate foam topping, which comprises mixing and dispersing together a component selection of the first class consisting of:

(*a*) Cocoa between 5 and 10%
Fat between 5 and 15%

(*b*) Chocolate liquor between 5 and 10%
Cocoa between 1 and 5%
Fat between 2 and 10%, and

(*c*) Chocolate liquor between 10 and 25%,

and a component selection of the second class consisting of:

(*a*) Sugar between 25 and 40%
Milk solids between 10 and 20%
Water between 30 and 48%, and

(*b*) Sugar between 20 and 30 %
Milk solids between 10 and 15%
Liquid whole milk between 35 and 45%,

and expelling and aerating the mixture by gas under pressure.

•

2,884,160. PROTECTIVE CAP FOR AEROSOL CONTAINERS. Issued April 28 to Robert H. Abplanalp, Bronxville, N. Y., assignor of one-half to John J. Baessler, Bronxville, N. Y.

A protective cap for an aerosol container having a bead at its top, said cap comprising: an inverted hollow cup having a top wall with an integral peripheral skirt, and a plurality of fin-like lugs arcuately spaced apart about the interior of the cup, each lug being integral with and projecting downwardly from the top wall and integral with and projecting radially inwardly from the skirt and provided at its bottom with a saddle-like concavity to seat upon and overlie the bead of the container, and a hook-like portion to engage with the under side of said bead.

•

2,884,166. HOLDERS AND VALVE CONTROLLING MECHANISM FOR PRESSURIZED CONTAINERS. Issued April 28 to Peter S. Vosbikian and Thomas S. Vosbikian, Melrose, Pa.

A support and control for pressurized containers, comprising a handle having a longitudinally extending opening through it and having a longitudinal groove in its top face, a strand having a lower stretch extending through said opening terminating at its forward end in a clamping loop and at its rear end in a rear loop positioned in rear of the handle, said rear loop merging into an upper stretch seated in said groove and terminating above said clamping loop, and a trigger pivoted on the handle and having a transverse opening through which the upper and lower stretches of the strand pass.

•

2,822,166. MANUFACTURE OF AERATED SHORTENING. Issued April 14 to Donald Hugh Clarke, Upminster, England, assignor to Lever Brothers Co., New York.

A continuous process of producing and packaging an aerated substantially water-free shortening which comprises placing a stream of substantially water-free, chilled, aerated, partially crystallized fluid fat under

(*Continued on Page* 80)

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YOUNG MAN, NEW JERSEY RESIDENT: Creative ability, 15 years design and development experience, 5 years recent aerosol experience. Would like position with progressive company. Will consider interest in small business. Address Box 183, c/o Aerosol Age.

MACHINIST—experimental machine builder. 8 years experience building, rebuilding, modifying and maintaining automatic and semi-automatic packaging machinery. Have built and maintained complete aerosol lines. Familiar with bottling, capping, labeling, powder filling, heat sealing, tube seamers, case sealers, case loaders, conveyor operation, etc. Also previous experience on diversified machinery. For further information contact Box 184, c/o Aerosol Age.

SALESMAN—experienced in aerosol field with a wide range of contacts in both cosmetic and pharmaceutical—Seeks a challenging position. Can assume full responsibility for management and direction of sales—Married with family, age 30, please reply to Box 185, c/o Aerosol Age.

Seaway Fragrance Shipment

Fred Crowhurst (left), vice president of van Ameringen-Haebler (Canada) Ltd., welcomes Capt. T. Aaldijk of the freighter *Prins Willem George Frederik* to Toronto. The Captain's ship has just won an exciting race to be the first ocean-going vessel through the new St. Lawrence Seaway to reach Toronto. It carried general cargo from Holland, including a sizeable shipment of fragrance and flavor materials for van Ameringen-Haebler.

•

Jack Mohr to P&T Board

Jack Mohr, former head of the Toiletries Division of Park & Tilford, New York, has been elected to the company's board of directors and named president of Tintex, Inc., another division of Park & Tilford.

•

Brodbeck to Mennen Post

William J. Brodbeck has been appointed product development manager of The Mennen Co., Morristown, N. J.

Titan Expands Product Line

Titan Chemical Industries, Denver, only aerosol marketer and filler in the Rocky Mountain area, last month added 13 new products to its established product line. All are in three-ounce containers, and all will sell for less than 50 cents, at first in tin-plate cans, and later in aluminum.

The new products include four air fresheners, a hair spray, furniture polish, shave cream, shoe polish, plant shine, sachet, hair shampoo, hand lotion, and baby lotion.

Rheometer for Aerosols

(*From Page* 25)

pressure packages and determining efflux rates during expulsion of the contents. This unwieldly method ignores rheological procedures which can provide a sound technical basis for formulation.

"Selection of a method of evaluation should provide for use of inexpensive equipment of sufficient accuracy for development work but simple enough to operate and to be used for production control purposes. We believe that the use of the Severs Extrusion Rheometer supplemented by the Brookfield rotational viscometer meets these requirements and is ideally adapted to this evaluation."

Mr. Wolff explained that the Brookfield rotational viscometer "measures the torque required to revolve a spindle through a sample at a given rate of speed." He described the Severs Extrusion Rheometer as being in essence "a pressurized viscosity cup with a cylindrical orifice which can measure viscosities at widely varying rates of shear by varying the pressure and the orifice diameter.

"The internal orifice used in pressure package valves is normally complex in shape and in some cases divided into three passages within the stem. It would be extremely difficult to calculate the shearing rate on a product being discharged. It is a simple matter, however, to calibrate these valves in the Severs Instrument by use of a Newtonian fluid. With this data we can select a Severs orifice diameter which will provide a shear rate on a sample equivalent to the shear rate produced by the valve. This orifice will also supply an instantaneous shear rate identical to that experienced in the pressure package rather than the normal continuous high shear rate applied by other viscometers."★

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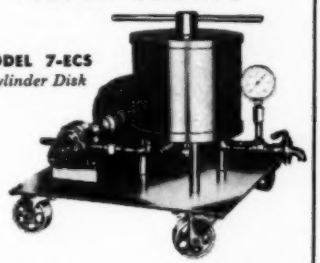

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Aerosol Patents

(From Page 78)

a high pressure, further crystallizing the stream of chilled, aerated fat, and suddenly releasing all of said pressure before said further crystallization is complete, the crystallized portion of said stream of substantially water-free, chilled, aerated, partially crystallized fluid fat being the higher melting point glycerides thereof.

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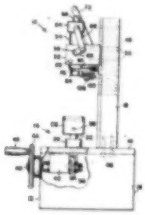
2,883,817. CONTAINER CAPPING APPARATUS. Issued April 28 to Robert A. Foresman, Jr., Philadelphia, Pa.



Container capping appartus comprising means for rotatably supporting the base portion of a container, means for rotating said base supporting means and a container supported thereby, rotatable means for engaging a cap on a container supported by such base supporting means, movable means including a resilient element for supporting said rotatable cap engaging means, means including toggle links for moving said movable means and cap engaging means into engagement with and away from a cap on a container supported by said base supporting means, said toggle links being in a fixed dead center position and said resilient element being under compression when said cap engaging means is in engagement with a cap on a container supported by said base supporting means, said resilient element providing a yielding force holding the cap on the container and holding the toggle in said fixed dead center position, and means mounted on said supporting means for said cap engaging means for bringing pressure to bear upon the cap when said cap engaging means is moved into engagement with a cap to form the cap into engagement with the container as the container is rotated.

•

2,884,207. VALVE OPERATING SPRAY BUTTON FOR AEROSOL DISPENSERS. Issued April 28 to Robert H. Abplanalp, Bronx, N. Y. assignor, by direct and mesne assignments, of one-half to John J. Baessler, of Yonkers, N. Y.

A valve stem operating button for an aerosol dispenser comprising: a unitary body having in its bottom a valve stem receiving socket extending upwardly and terminating below the top of said body, said unitary body having in its lateral face an unencumbered recess with a substantially cylindrical peripheral wall and a substantially flat bottom and which recess is at all times completely open to the exterior of the body, there being formed within said unitary body a spray-pattern-forming frusto

conical discharge passage interconnecting said valve stem receiving socket with the mid portion of the substantially flat bottom of said recess in spaced relation to the peripheral wall of said recess, the entire cylindrical peripheral wall of said recess lying exterior to an imaginary cone figuratively constituting an extension of the surface of the frusto conical wall of the discharge passage and extended through said recess.

•

Trade Mark Applications

Applications for registration of the following trademarks were published in recent issues of the *Official Gazette* of the U. S. Patent Office. In not all cases are there strictly aerosol trademarks, however many of the products listed below come within the category of those for which a possible future use in aerosols is foreseen.

EVEREADY, for paints and enamels in pressurized dispensing containers; artificial snow in liquid form in pressurized dispensing containers; decorating and lettering stencils for use with paints and other coating materials dispensed from pressurized containers. Filed Feb. 19, 1958 by Eveready Pressurized Products, Inc., Cleveland, with first use claimed for Nov. 17, 1952.

POSNER'S for hair straightener and conditioner. Filed Feb. 2 by I. Posner, Inc., New York, reporting first use Feb. 20, 1905 on hair straighteners.

AEROSPRAY, for resin emulsion spray to prevent dust loss, rain erosion, or coal fines. Filed April 30, 1958 by American Cyanamid Co., New York, with first use reported as April 15, 1958.

HIGH GLOSS, for brilliantine hair spray. Filed Dec. 12, 1957 by Revlon, Inc., New York, reporting first use Nov. 9, 1957.

SMARTLY SOFT, for hair dressing for spraying on the hair to keep the hair in place. Filed July 25, 1958 by The Realistic Co., Cincinnati, reporting first use on or about March 31 of same year.

BYRNES, for hair lacquer. Filed June 27, 1958 by Hehemann Supply Co., El Paso, Tex., claiming first use on or about Jan. 1, 1948.

GRAYGUARD, for rust inhibitor and protective coating for metal surfaces. Filed Oct. 10, 1958 by Atlantic Laboratories of Delaware, Inc., Wilmington, Del., with first use reported as June 18, 1958.

ALUM A WAX, for spray-on composition to protect aluminum surfaces against pitting and oxidation. Filed Feb. 3, 1958 by Alumalub Lubricant Corp., St. Louis, with first use reported as Jan. 22, 1958.

EX-IT, for liquid and spray deodorant having a household use and a general use in the industrial arts. Filed July 21, 1958 by LeFevre Chemical Co., Oklahoma City, Okla., claiming first use July 10 of previous year.

ANTROL INSTANT LEAF SHINE, for preparation for imparting gloss to house plants. Filed March 10, 1958 by American Home Products Corp., d.b.a. Boyle-Midway Division, New York, with first use claimed for Feb. 19, 1957.

AIROBAND, for spray bandages. Filed Aug. 11, 1958 by Aceline Products Corp., Rochester, N. Y., reporting first use as May 27 of same year.

SOLIDAIRE, for volatizable air treating composition in gel form particularly for use as a space deodorant. Filed Aug. 28, 1958 by Airkem, Inc., New York, reporting first use June 11, 1958.

MIRACLE FLAME, for fire starter compound. Filed Aug. 22, 1958 by Robertson Brothers Products Co., Liberal, Kan., listing first use as May 23 of same year.

ADR, for dog and cat repellent. Filed May 19, 1958, by Aceline Products Corp., Rochester, N. Y., claiming first use April 12 of same year.

RADAR, for liquid chemical compound for detecting gas leaks in pipes. Filed June 25, 1958 by Fries & Fries, Inc., Cincinnati, with first use reported May 22 of same year.

TIP TOP, in heavy black letters, for pharmaceutical preparation used for perspiration and relief of tired and burning feet, and also used to relieve discomfort caused by chafing. Filed June 6, 1957 by Curtis Moore, Forest City, Iowa, reporting first use May 8, 1957.

SPAR, for cologne, hair dressing, and personal deodorants. Filed March 10, 1958 by Chesebrough-Pond's, Inc., New York, claiming first use Dec. 3 of previous year.

JAFRA, for cologne, perfume, personal deodorants, hair dressing, and a wide range of cosmetic products. Filed April 7, 1958 by Cosmetic Exclusives, Malibu, Calif., with first use reported as Aug. 6, 1956.

SOFT-CONTROL, for hair spray. Filed May 28, 1958 by Chesebrough-Pond's, New York, claiming first use April 29 of same year.

MAGIC, for shoe polish. Filed Dec. 4, 1957 by Magic Spray Shine Corp., Kansas City, claiming first use Oct. 17, 1957.

SAFE NOX, for aerosol insecticide. Filed May 12, 1958 by Claire Manufacturing Co., Chicago, with first use claimed May 12, 1958.

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Colgate Board Elects Two

John E. Bierwirth, chairman of the board of National Distillers and Chemical Corp. and Frank Pace, Jr., president of General Dynamics Corp., were elected to the board of directors of Colgate-Palmolive Co. at the Company's annual meeting early last month.

Mr. Bierwirth has been chairman or president and a director of National Distillers and Chemical since 1949. Mr. Pace, who was Secretary of the Army from 1950 to 1953, became executive vice-president and a member of the board of directors of General Dynamics Corp. in 1953 and has been president since 1957.

O-I Names Chickvara

Joseph G. Chickvara, Chicago branch salesman for Libby Glass Division of Owens-Illinois Glass Co., last month was named branch manager at St. Paul, Minn. At the same time the company announced the appointment of Donald M. Grindle to the Chicago sales staff.

OVER THE TRANSOM

THE price cutting issue is still a live one at every CSMA meeting, and the May meeting in Chicago was no exception. Chief target for caustic comment were some ridiculously low filling prices "given" by custom fillers to some major marketers in order to land sizeable filling orders. One quotation we heard apparently took into account nothing for normal overhead, line labor, research, or quality control, to say nothing of handling cans, valves, and finished products.

Our editorial column has long made our position clear on this whole issue, so suffice it to say now that irresponsible price cutting could lead to a situation from which there may be no retreat. As in the consumer market, once a price has been cut substantially it is difficult to get the buyer to pay a fair price the next time around!

* * *

Jack Pickthall, a visitor to our Caldwell editorial offices last month, reports that the new method of delivering technical papers at the British Society of Cosmetic Chemists meetings has been a big success. The papers are pre-printed before the meetings and distributed to the society's membership in advance. Then during the meeting, a brief summary of the paper is given, questions are stimulated, and the rest of the normal time period for such papers is given over to discussion. A similar method of technical paper presentation might be worth trying at CSMA Aerosol Division sessions.

* * *

A new equipment supplier, one to rank with Colton and Mojonnier, may be on the horizon. This new one, already a major supplier of machinery, is reportedly dickering to buy a line of aerosol equipment — with plans to enter the aerosol field with all the considerable array of financial and sales staff resources at its command.

* * *

Grasselli, a famous name in the insecticide raw material field, is going out of use this month. DuPont's Grasselli Chemicals Division will be supplanted by a new corporate wing, called the Industrial and Biochemicals Department. The new Division will continue to market Methoxychlor, a leading aerosol insecticide ingredient.

* * *

Aerosol insecticides, reinforced with hand sprayers, burning newspapers, and some insect repellent, were used to repell an invasion of gnats during a Baltimore Oriole-Chicago White Sox night game at Comiskey Park in Chicago on June 2. Hoyt Wilhelm, Baltimore knuckleballer, was the chief victim of the attack, which delayed the game a total of 16 minutes.

* * *

The conventional fluorinated hydrocarbon aerosol propellant is branching out into other fields! Thermo Pin Corp., Mineola, N. Y. has placed on the market a cooking aid which it claims cuts meat roasting time in half. It consists of a hollow stainless steel tube in which the liquefied gas is sealed. The unit, which is inserted into the meat with the finned tips exposed, conducts meat to the non-exposed areas—thus reducing cooking time for both regular and frozen meats.

* * *

From a recent *Los Angeles Times*:
"The Drop Dead Insecticide people have instructed their switchboard operators to cease using that name when answering calls and use the corporate title instead. Too many irate callers were slamming down the receiver when the operators cheerily answered 'Drop Dead!' "

* * *

"It's mainly for people who had to *give up* liquor!"

John A. Rodda, manager of Fairfield Chemicals, Food Machinery and Chemical Corp., photographed prior to departure aboard American Airlines jet liner on the first leg of a business trip to the Far East and Europe. His travels, which lasted about a month, took him to Japan and then England where he surveyed market conditions. Mr. Rodda spoke with government health officials, insect control experts and manufacturers in the countries he visited. Fairfield produces toxicants used in insecticide products throughout the world.